

Levin-Richmond Terminal Corporation

402 Wright Avenue, Richmond, California 94804 Tel. (510) 307-4000 / Fax. (510) 236-0129

August 31, 2018

Ms. Karen Jurist
United States Environmental Protection Agency Region 9
75 Hawthorne Street
San Francisco, California 94105
Via email: jurist.karen@epa.gov

RE:

2017-2018 Annual Report, United Heckathorn Superfund Site, Upland Capping System

Richmond, California

Dear Ms. Jurist:

Enclosed please find the 2017-2018 Annual Report for the Upland Capping System at the United Heckathorn Superfund Site.

Please feel free to contact me if you have any questions or concerns with the attached report.

Sincerely,

James Holland

Vice President of Facilities, Equipment, and Environmental

Levin Richmond Terminal Corporation

(510) 307-4076

Enclosure: 2017-2018 Annual Report for United Heckathorn Superfund Site Upland Capping System



45 Polk Street, 3rd Floor • San Francisco, California 94102 • 415.498.0535 • cdimengineering.com

2017-2018 Annual Report

United Heckathorn Superfund Site Upland Capping System Richmond, California

August 29, 2018 Rev. 0

prepared for:

Levin Richmond Terminal Corporation 402 Wright Avenue Richmond, California 94804

prepared by:

CDIM Engineering, Inc.45 Polk Street, 3rd Floor
San Francisco, California 94102



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2017-2018 Annual Report

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CDIM Engineering, Inc. 45 Polk Street, 3rd Floor San Francisco, CA 94102

CDIM's work for the Levin Richmond Terminal Corporation was conducted under my supervision. To the best of my knowledge, the data contained herein are true and accurate, are based on what can be reasonably understood as a result of this project, and satisfy the scope of work prescribed by the client for this project. The data, findings, recommendations, specifications, or professional opinions were prepared solely for the use of the Levin Richmond Terminal Corporation in accordance with generally accepted processional engineering and geologic practice. We make no other warranty, either expressed or implied, and are not responsible for the interpretation by others of the contents herein.



Scott Bourne, PE #C72817

Principal Engineer

August 29, 2018

Date



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ACRONYMS AND ABBREVIATIONS

BMP best management practices

CDIM Engineering, Inc.

DDD dichlorodiphenyldichloroethane

DDE dichlorodiphenyldichloroethene

DDT dichlorodiphenyltrichloroethane

EPA United States Environmental Protection Agency

gpm gallons per minute

Heckathorn Site or Site United Heckathorn Superfund Site

IGP Storm Water Industrial General Permit

LRT Levin Richmond Terminal

LRTC Levin Richmond Terminal Corporation

MDL method detection limit

msl mean sea level

NAL numeric action level

NPDES National Pollutant Discharge Elimination System

O&G oil and grease

O&M operations and maintenance

O&M Plan Revised Draft Operations and Maintenance Plan, Upland Capping System,

Former United Heckathorn Site

pg/L picograms per liter

QSE Qualified Storm Event

ROD Record of Decision

SWPPP Storm Water Pollution Prevention Plan
SWRCB State Water Resource Control Board

Third Five-Year Review Report for United Heckathorn Superfund Site,

Richmond, California

TS-2 advanced storm water treatment system TS-2

TSS total suspended solids



1 INTRODUCTION

On behalf of the Levin Richmond Terminal Corporation (LRTC), CDIM Engineering, Inc. (CDIM) has prepared this 2017-2018 Annual Report to describe the inspection, monitoring, and maintenance performed on the upland cap at the United Heckathorn Superfund Site (Heckathorn Site).

1.1 Background

From 1947 through 1966, the Heckathorn Site was used for formulating, processing, packaging, and shipping pesticides including aldrin, dichlorodiphenyltrichloroethane (DDT), dieldrin, and endrin. These activities resulted in the release of pesticides to the surrounding soils and the Lauritzen Channel. In 1994, after remedial investigation and feasibility studies were completed, the United States Environmental Protection Agency (EPA) adopted a Record of Decision (ROD) for remedial action requiring:

- Dredging of all soft bay mud from the Lauritzen Channel and the Parr Canal, with offsite disposal of dredged material;
- Placement of clean material after dredging;
- Construction of a cap at and around the former Heckathorn facility to prevent erosion;
- A deed restriction limiting the property at the former Heckathorn facility location to nonresidential uses; and,
- Marine monitoring to verify the effectiveness of the remedy (EPA, 1994b).

In 1996, LRTC entered a Consent Decree¹ with the EPA, which outlined LRTC's responsibility to design, construct, and maintain a concrete cap at and around the former Heckathorn facility to prevent erosion (United States District Court, 1996a). LRTC completed construction of the concrete cap in July 1999 (PES, 1999b.)

Since the cap was constructed, EPA has completed four five-year reviews; it has found the upland remedial action is functioning as intended, is protective of human health and the environment, and has met the remedial action objective for the upland area by capping of contaminated soils, which has eliminated human exposure pathways and has prevented erosion (EPA, 2016a).

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dredging (United States District Court, 1996b).

Montrose Chemical Corporation of California, Chris-Craft Industrial, Rhone-Poulenc, Inc. and Stauffer Management Company (collectively the "Montrose Group") entered into a separate Consent Decree with EPA for dredging of young bay mud from the Lauritzen Channel and Parr Canal, with offsite disposal of dredged material and placement of clean fill after



1.2 Program Objectives

To ensure long-term protection of human health and the environment, the remedial action goal established by the EPA for upland and embankment soils is the prevention of erosion and transport into the Lauritzen Channel (EPA, 1994a).

The upland cap was designed to prevent the release of residual chlorinated pesticides that are present in soils (PES, 1998).

The objective of the cap inspection and storm water monitoring programs is to identify any potential release of pesticide-impacted soil by examining the integrity of the cap system through visual inspection and storm water monitoring (EPA, 2011).

1.3 Operation and Maintenance Program

LRTC performs operations and maintenance (O&M) activities in accordance with the Revised Draft Operations and Maintenance Plan, Upland Capping System, Former United Heckathorn Site (O&M Plan; PES, 1999a). LRTC performs additional O&M activities as recommended by EPA in the Third Five-Year Review Report for United Heckathorn Superfund Site, Richmond, California (Third Five-Year Review; EPA, 2011) to provide added confidence that the upland area remedy maintains its effectiveness.

1.4 Contents of this Report

This Annual Report describes activities performed by LRTC to inspect, monitor and maintain the upland cap for the period of July 1, 2017 to June 30, 2018. Included is a summary of each of the following:

- Capping system maintenance activities;
- Storm water collection system inspection and cleaning;
- Storm water system monitoring;
- Storm water treatment;
- Annual cap inspection;
- Proposed site work for 2018-2019; and,
- A conclusion with CDIM's opinion as to the overall condition and effectiveness of the cap in meeting the program objectives.



2 SITE DESCRIPTION

The Levin Richmond Terminal (LRT) is located at 402 Wright Avenue in Richmond, California and is immediately adjacent to the Lauritzen Channel in the Richmond Harbor (Figure 1). The Heckathorn Site includes the northern five acres of the Main Terminal at LRT, also known as the upland cap area (Figure 2).

2.1 Upland Area Description and Current Use

The upland cap area is bounded by a railroad track and Cutting Boulevard to the north; South Fourth Street to the east; the LRT and Santa Fe Channel to the south; and, the Lauritzen Channel to the west. The majority of the upland cap area is relatively flat with surface elevations of approximately 9 feet above mean sea level (msl), with the exception of the upland cap area north of the Lauritzen Channel; this portion was raised to approximately 15 feet above msl during cap construction.

The upland cap area is used primarily for storage of dry bulk product and railroad operations. Photographs taken during the site inspection are included in Appendix A.

2.2 Nearby Water Bodies

The storm water system in the upland cap area discharges directly to the Lauritzen Channel (Figure 2). The Lauritzen Channel is connected to the San Francisco Bay via the Santa Fe Channel and Richmond Inner Harbor.

2.3 Upland Area Cap

Construction of the concrete cap at the upland cap area began in July 1998, and it was completed in July 1999 (PES, 1999b). Installation of the cap consisted of: (1) site grading to promote surface runoff to the collection points; (2) installation of a drainage system to collect surface runoff, including best management practices (BMPs) for storm water pollution prevention; and (3) construction of a reinforced concrete cap in the majority of the 5-acre area and construction of a geotextile fabric and gravel cap in the railroad track area (Figure 2). The concrete cap consists of a minimum 6-inch thick concrete with a double layer of welded wire fabric reinforcement. The gravel cover consists of a geotextile fabric over a prepared subgrade. The geotextile fabric is covered by a 6-inch layer of gravel.

2.4 Storm Water Collection and Advanced Treatment

The facility is paved with asphalt and concrete and is graded to direct surface water runoff via sheet flow or shallow swales to drop inlets (Figure 3). The drop inlets drain to five below-grade interceptors² (SW-3 through SW-7) via underground pipe. The interceptors are equipped with compartments and steel baffles to allow the settling of sediments and separation of oil/grease and floatables. Each interceptor is also equipped with normally-

² The interceptors design was based on a five-minute retention time during a 10-year, 24-hour storm event (PES, 1999a).



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closed gate valves at the effluent pipe, which can be opened during heavy rains to enable direct discharge to the Lauritzen Channel.

In 2015, LRTC modified³ the upland cap area storm water collection system and installed advanced storm water treatment system TS-2 (TS-2). Single-speed submersible pumps placed into the final chamber of each interceptor were connected to newly installed storm drain pipe along the edge of the LRTC pier. During storm events, the submersible pumps push storm water captured by interceptors SW-3 to SW-7 through an inline static mixer where a biopolymer flocculant is added. Storm water then flows into a series of two 21,000-gallon aboveground clarification tanks, where flocculant and solids separate from the water. Storm water overflows from the second clarifier and is pumped through four, 48-inch diameter sand filters. Effluent from the treatment system then is discharged to the Lauritzen Channel at the interceptor SW-5 outfall. TS-2 is equipped with a variable speed drive for pump control, a programmable logic controller, and a human machine interface.

The estimated flow for the SW-3 to SW-7 catchments that results from a 0.2 inch per hour design storm intensity⁴ is approximately 500 gallons per minute (gpm). TS-2 is designed to treat approximately 650 gpm. Additionally, due to the storage volume provided by interceptors, clarifiers and equalization tank, the system is able to capture and treat periods of storm water flow in excess of 650 gpm before treatment bypass occurs.

³ The storm water treatment system was described in the 2014-2015 annual report and a telephone conversation (December 26, 2014) and email correspondence (January 26, 2016) between Rachelle Thompson of EPA and Scott Bourne, formerly of Weiss Associates.

⁴ Design criteria for flow-based treatment established in IGP (SWRCB, 2014).



3 OPERATION AND MAINTENANCE

This section describes the operation and maintenance activities performed by LRTC for the upland cap at the Heckathorn Site during the 2017-2018 reporting year. These activities included:

- Upland cap maintenance;
- · Storm water collection system inspection and cleaning;
- Storm water monitoring; and,
- Storm water treatment and operation.

3.1 Upland Cap Maintenance

During the 2017-2018 reporting year, LRTC monitored the performance of the concrete cap and gravel cover in accordance with recommendations contained in the 2016-2017 Annual Report (CDIM, 2017). LRTC regularly monitored the cap and inspected cracks, seals, and joints for signs of propagation and/or degradation. No evidence of exposed underlying soil was observed, and minor surficial cracks were addressed as described in Section 4.1 below. The upland cap functioned as designed, and no major maintenance or repair of the cap was conducted during the current reporting period.

LRTC repaired deteriorating concrete located in the southern portion of the eastern swale, which was identified for monitoring and potential repair in the 2016-2017 Annual Report (CDIM, 2017) (Appendix A; Photos 1 and 2). Additionally, LRTC repaired surficial cracks at some locations in the upland cap area (Appendix A; Photos 2 through 7). Repair work was performed during dry-weather conditions and did not disturb underlying soil.

3.2 Storm Water Collection System Inspection and Cleaning

LRTC inspected the storm drain inlets, interceptors and clarifier tanks prior to the rainy season and monthly throughout the reporting year per its Storm Water Pollution Prevention Plan (SWPPP; CDIM, 2016). Storm water interceptors and the clarifier tanks were cleaned before the start of the rainy season. Drain inlets and inlet filters were cleaned and replaced as-needed throughout the year. Accumulated material that was removed from the inlets, interceptors and clarifier tanks appeared to be bulk product, which LRTC returned to the bulk product piles.

3.3 Storm Water Monitoring

The objective of the storm water monitoring program is to verify the cap is effectively preventing erosion, reducing the potential for storm water contact with soils containing residual pesticides and reducing the potential for release of residual pesticides to the Lauritzen Channel. This section describes the storm water sampling, results, and quality assurance/quality control procedures. It also includes an assessment of the results.



3.3.1 Storm Water Sampling

LRTC sampled industrial storm water discharges in accordance with State Water Resources Control Board (SWRCB) Water Quality Order No. 2014-0057-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, *General Permit for Storm Water Discharges Associated with Industrial Activities* (IGP; SWRCB, 2014); the O&M Plan (PES, 1999a) and a Consent Decree between the San Francisco Baykeeper and the Levin Richmond Terminal Corporation (United States District Court, 2014)⁵. Storm water monitoring requirements are documented in LRTC's SWPPP.

Prior to 2015, LRTC collected samples from interceptors SW-3 through SW-7. Since installing advanced treatment system TS-2, LRTC no longer regularly discharges storm water at these locations. As a result, LRTC now collects storm water samples from the TS-2 influent and effluent.⁶ In the event that elevated pesticides are detected in the TS-2 influent or effluent, LRTC is prepared to sample at interceptors SW-3 through SW-7.

Storm water samples were submitted to Vista Analytical in El Dorado Hills, California for pesticide analysis by EPA Method 1699. Storm water samples were submitted to Eurofins Calscience Environmental Laboratories in Concord, California for the following analyses: pH by Standard Method 4500HB, total suspended solids (TSS) by Standard Method 2540D, oil and grease (O&G) by EPA 1644A, and metals by EPA Method 200.8. Original laboratory reports, including applicable chain-of-custody forms, are included in Appendix B.⁷

3.3.2 Sample Results

During the 2017-2018 reporting year, storm water from the combined TS-2 influent and effluent was sampled during four storm events: January 4, 2018; January 8, 2018; January 22, 2018; and, March 1, 2018.

3.3.2.1 Effluent Sample Results

Tables 1 and 2 show laboratory analytical results for pesticides and general parameters/metals, respectively. Pesticides were detected in the treated storm water discharge samples (TS2-E) from each of the four storm events sampled during the 2017-2018 reporting year. Total DDT⁸ was detected at concentrations ranging from 111 to 18,893 picograms per liter (pg/L); dieldrin was detected at concentrations ranging from 519 to 5,410 pg/L. TS-2 discharge results for all other pollutants (metals, O&G pH and TSS) were below the numeric action levels (NALs; State Water Resources Control Board, 2014) during the 2017-2018 reporting year.

⁵ During the 2017-2018 reporting year, LRTC was unable to collect storm water samples during the first half of the reporting year (July 1 to December 31) due to a low number of Qualified Storm Events (QSEs). Therefore, samples were collected during four QSEs from the second half of the reporting year (January 1 to June 30).

⁶ Changes to storm water monitoring were discussed during a telephone conversation on November 3, 2015 between Rachelle Thompson of EPA and Scott Bourne of Weiss Associates.

⁷ Laboratory analytical reports include data for LRT storm water discharge points that are not located in the upland cap area (TS1-E, TS3-E, TS4-E).

⁸ Total DDT represents the sum of detected concentrations of 4,4' and 2,4'- isomers of DDT, DDD, and DDE and/or the detection limits for non-detected compounds.





3.3.2.2 Influent Sample Results

Samples of the combined influent to TS-2 (TS2-I) were collected during each of the four storm events. Influent samples were composited using the SW-3, SW-4, and the combined SW-5/6/7 influent feeds; volume from each feed was calculated based on the estimated runoff contribution to TS-2 discharge. Total DDT was detected in the influent at concentrations ranging from 29,807 to 81,010 pg/L; dieldrin was detected at concentrations ranging from 1,720 to 7,610 pg/L.

3.3.3 Quality Assurance/Quality Control

The O&M Plan stipulates that at least one duplicate sample be collected for analysis by EPA Method 8080 per storm sampling event. However, due to the change to EPA Method 1699, it was determined that a duplicate pesticide sample was no longer necessary. EPA Method 1699 employs high-resolution gas chromatography/high-resolution mass spectrometry with isotope dilution and internal standard quantification techniques to provide improved sensitivity and data quality. In future years, a duplicate sample can be collected upon EPA request. A duplicate sample for general parameters and metals was collected during the January 22, 2018 storm event.

Laboratory method detection limits (MDLs) for each DDT isomer, and the sum of the MDLs for all DDT isomers, were below the total DDT final surface water remediation level of 590 pg/L established in the ROD (EPA, 1994b) for all events. The MDL for dieldrin was below the final surface water remediation level of 140 pg/L.

No data quality issues were reported through the data validation process. Based on the data validation process, the data resulting from sampling and analysis are acceptable and complete.

3.3.4 Assessment of Results

Pesticides were detected in all TS-2 influent and effluent samples during the 2017-2018 reporting year. Total DDT was detected in two of the four effluent samples at concentrations above the surface water remediation level of 590 pg/L. Dieldrin was detected in all four effluent samples at concentrations above the surface water remediation level of 140 pg/L. Figure 4 and 5 present trend charts showing influent and effluent DDT⁹ and dieldrin concentrations from October 2015 to present to present to concentrations and MDLs when pesticides were not detected. Sample results from the 2017-2018 reporting year show that TS-2 is effective at reducing concentrations of total DDT, dieldrin, TSS and metals. While concentrations show a relatively high degree of variability within a rain year and between rain years, both influent and effluent concentrations in 2017-2018 reporting year were generally consistent with concentrations from previous years.

. .

⁹ Note that plotted DDT values are for the sum of the 4,4'- and 2,4'- isomers of DDT, DDD, and DDE.

¹⁰ Concentration trend charts for DDT and dieldrin for individual storm water discharge locations from 2011 to 2015 are contained in the 2014-2015 Annual Report (Weiss, 2015).

¹¹ Denoted by "<n", where n is MDL, if available, or reporting limit otherwise.





3.4 Storm Water Treatment System Operation

LRT received approximately 16 inches of rainfall¹² during the 2017-2018 reporting period. According to the LRTC, TS-2 provided sufficient treatment capacity to prevent treatment system bypass for all time periods when its operation was observed. No significant operation and maintenance concerns were encountered.

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¹² Rainfall from LRTC rain gauge.



4 ANNUAL SITE INSPECTION

Representatives of LRTC and CDIM inspected the upland cap on June 8, 2018. The inspection included visual observations of the concrete cap, gravel cover, and drainage system throughout the observable extent of the upland cap area. Appendix A includes photographs taken during the inspections. Figure 3 shows the locations of the photographs. Appendix C includes the inspection form.

4.1 Concrete Cap Inspection

Visual inspections concentrated on identifying signs of deterioration and exposure of the underlying subgrade at cracks, joints, high-loading areas, gravel and cap penetrations. Areas were identified in the Third Five-Year Review (EPA, 2011) and the 2016-2017 Annual Report (CDIM, 2017) with cracks and potential settlement were reexamined.

- **SW-3 Area** Minor surficial cracks were repaired in the alleyway west of the bulk product area and to the south of the bulk product area (Appendix A; Photos 3 and 4).
- **SW-4 Area** Minor surficial cracks were repaired in the vicinity of SW-4 and in the alleyway west of the bulk product secondary storage area. Cracks surrounding the drain inlets were also repaired (Appendix A; Photos 5 and 6). Minor surficial cracks and seams were observed in the bulk product storage area (Appendix A; Photos 8 and 9).
- **SW-5 Area** Minor surficial cracks and seams were noted in the vicinity of interceptor #5 and treatment system TS-2 (Appendix A; Photo 10). Settlement at the railroad track was observed east of interceptor #5. Settlement appears to be caused by local concrete damage (Appendix A; Photo 7). Cracks and deteriorated concrete at the railroad crossing in the southern portion of the eastern swale (noted in the 2016-2017 annual report) were repaired (Appendix A; Photos 2 and 7).
- **SW-6 Area** Minor cracks and seams were noted in the vicinity of interceptor #6 and east of the railroad tracks (Appendix A; Photos 11 and 12).
- **SW-7 Area** Minor surficial cracks were observed throughout this area (Appendix A; Photos 13 and 14). Shotcrete applied to the northern shoreline of the Lauritzen Channel appeared to be in good condition (Appendix A; Photo 15)

No evidence of differential settling or vertical displacement was observed across most of the cap. Local settling of railroad track was observed east of interceptor #5. No evidence of cracks, gaps, significant cap deterioration, or other material breach with apparent potential for exposure of the underlying subgrade was observed during the inspection. CDIM recommends that LRTC continue to monitor the cracks and deterioration noted during the inspection. Repair of the area where local settling of the railroad track east of interceptor #5 was observed may be required in 2018-2019.

4.2 Gravel Cover Inspection

Visual observations of the gravel cover concentrated on identifying areas where the gravel cover was thin. A geotextile membrane underlies the gravel cover, but it was not visually observed in any of the areas inspected. Below is a summary of observations from the concrete cap inspection.



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- **SW-4 Area** The gravel cover appeared adequate; the underlying geotextile fabric was not exposed in any area (Appendix A; Photo 16).
- **SW-5 Area** The gravel cover appeared adequate; the underlying geotextile fabric was not exposed in any area (Appendix A; Photos 16 and 17).
- **SW-6 Area** The gravel cover appeared adequate; the underlying geotextile fabric was not exposed in any area (Appendix A; Photo 18).

No visual evidence of differential settling or vertical displacement was observed. Overall, the gravel cover was found to be in good condition and functioning properly with no apparent potential for exposure of the underlying subgrade. CDIM recommends that LRTC continue to regularly inspect the gravel cover and to perform maintenance as detailed in Section 6.



5 PROPOSED SITE WORK FOR 2017-2018

During the 2017-2018 reporting year, O&M activities will continue as follows:

- Storm water discharge samples will be collected from the TS-2 treatment system effluent (combined SW-3 through SW-7) discharge location. TS-2 influent samples will also be collected to evaluate system effectiveness.
- An annual inspection of the concrete cap and gravel cover in the upland cap area will be performed in the early summer of 2019.
- Regular inspections of the upland capping system, including the drainage system, will continue as part of the SWPPP (CDIM, 2016) compliance activities and daily operations.
- As needed, significant cracks will be filled, and deteriorated sections of concrete in the upland capping system will be replaced.

Proposed site work under the O&M Plan for 2018-2019 is presented in Table 3.

Any repairs to the cap, if required, will be documented and reported in a memorandum to the EPA and the California Department of Toxic Substances Control.



6 CONCLUSIONS AND RECOMMENDATIONS

The annual upland capping system inspection found that the surface cap is in overall good condition, and it effectively functions to prevent erosion of the underlying soil. Storm water sampling results from the upland cap area indicate that treatment system TS-2 is effective in reducing the discharge of pesticides.

CDIM recommends continuing the following maintenance and monitoring activities:

- Monitor gravel cover areas near interceptors #4, #5 and #6;
- Monitor the concrete cap at the railroad crossing in the southern portion of the eastern swale for deterioration caused by the failing railroad track and repair as needed;
- As needed, fill any significant cracks and replace deteriorated sections of concrete in the upland capping system;
- Implement regular inspections and BMPs identified in LRTC's SWPPP (CDIM, 2016); and,
- Continue to monitor storm water for pesticides as described herein.



7 REFERENCES

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TABLES



Table 1. 2017-2018 Annual Storm Water Sampling Data for Pesticides

		Analytical results ^a																											
Discharge Location	2,4'-DDD	4,4'-DDD	2,4'-DDE	4,4'-DDE	2,4'-DDT	4,4'-DDT	Total DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	cis-Nonachlor	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC (Lindane)	gamma-Chlordane	Heptachlor	Heptachlor epoxide ^e	Hexachlorobenzene	Methoxychlor	Mirex	Oxychlordane	trans-Nonachlor
	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
INFLUENT																													
TS2-I ^b																													
1/4/2018	5,470	11,100	833 J	12,000	5,750	22,800	57,953 J	<353	<132	2,950	<172	<964	<123	7,020	<1,360	<1,620	-,	1,600 J	.,	<3,610	<185	4,060	<70.9	<3,382	1,820 J,B	<6,980	<387	<1,090	<949
1/8/2018 1/22/2018	5,090 8,990	12,400 18,700	961 1,120	17,000 17,500	9,460 7,300	26,600 D 27.400 D	•	82.1 7,600	63.2 183	991 3,830	<62.3* 639	<172 <977	<16.6 495	3,070 7.610	<100 D <624	<250 <1.470	<382 D <2.190	1,360 2,110	<565 <841	<1260 <1,900	66.3 223	1,060 6.840 D	68.3 <32.7	<365* <1.230	1,070 B 1.910 B	<1120 <2,090	<98.6 <355	<99.7 4.830	<491* 1,800
3/1/2018	1,500	2,690	417	6,960	3,840	14,400 D	29,807	<64.8	67.5	887	<53.5	<365	<61.3	1,720	<218	<1300	<1050	1,180	<3170	<3180	79.5	486	<23.4	<494	1,930 B, D	,	<342	< 108	<218
EFFLUENT																													
TS2-E ^c																													
1/4/2018	105	158	14.0 J	134	69.9	200	681 J	<3.72	28.4 J	73.8	53.2	<8.74	<2.20	1,040	<13.9	<14.3	<7.19	331	<5.79	633	33.6 J	58.0	<1.35	<284.4*	18.2 J,B	<3.98	<1.06	<10.1	<9.12
1/8/2018 1/22/2018	73.2 4,160	99.7 9,110	<2.13 140	55.5 2,680	38.8 493	95.9 2,310	363 18,893	<4.99 8,530	42.8 105	59.7 2,460	37.3 J 526	<9.98 <261	4.32 J 318	1,010 5.410	<18.4 <402	<17.1 <367	<7.44 <568	398 1.440	<2.90 <252	425 3,680	71.5 169	42.6 6.710 D	<1.56 <15.4 D	<136.9* <766	14.9 J,B 40.2 B	<2.73 <110	<0.725 <57.6	<13.2 <285	<11.4 991
3/1/2018	29.6 J	37.6 J	<4.06	17.6 J	< 7.18	26.2 J	10,093 111 J	<7.94	46.3	<33.4*	25.7 J	<12	< 8.15	519	<27.6	<36.3	<26.2	256	<11.5	229	39.6 J	<26.2	<1.91	<82.6	8.96 J, B	<5.52	<2.79	<26.1	<21.8
Remediation Goa	ıl ^d						590							140															

Notes:

Detected concentrations of pesticides are displayed in **bold**.

Acronyms/Abbreviations:

- < n =not detected above the sample-specific estimated detec J = concentration reported is an estimated value
- B = compound was also detected in laboratory method blank pg/L = picograms per liter
- D = sample diluted for analysis; concentration calculated valu USEPA = United States Environmental Protection Agency

^{*} Not detected; reported value is estimated maximum possible concentration.

^a Laboratory method EPA 1699.

^b TS2-I is the combined influent from interceptors SW-3 to SW-7 and does not represent discharge. It is used to evaluate TS-2 effectiveness.

^c TS2-E is the effluent of treatment system TS-2, which treats storm water from interceptors SW-3 to SW-7. It represents facility discharge.

d Remediation goal from USEPA Superfund Record of Decision: United Heckathorn Co., October 1994, for surface waters in the Lauritzen, Santa Fe, and lower Richmond Inner Harbor Channels.

^e Reported result is sum of detected cis- and trans-heptachlor epoxide concentrations.



Table 2. 2017-2018 Annual Storm Water Sampling Data for General Parameters and Metals

		Analytical Parameters ^a													
Discharge Location	Notes	Hd	O&G (HEM)	TSS	Aluminum	Copper	lron		Lead		Zinc				
		-	mg/L	mg/L	μg/L	μg/L	μg/L		μg/L		μg/L				
INFLUENT															
TS2-I ^b 1/4/2018 1/8/2018 1/22/2018 3/1/2018		7.44 7.30 7.24 7.77	1.3 1.6 1.6 2.0	332 172 196 214	1,250 767 530 1,180	70.8 23.4 14.3 11.6	7,690 2,550 1,650 2,230		118 72.7 29.2 23.7		360 271 195 313				
EFFLUENT															
TS2-E ^c 1/4/2018 1/8/2018 1/22/2018 1/22/2018 3/1/2018	Duplicate	7.66 7.64 7.58 7.58 7.94	<1.0 <1.0 <1.0 <1.0 <1.0	5.3 <1.0 <1.0 <1.0 1.9	16.0 17.0	J 3.09 J 2.04 J 2.35 J 2.75 J 10.2	135 21.7 32.6 29.2 17.1	J J J	2.60 0.811 0.999 0.959 1.49	J J J	102 56.8 57.2 63.0 84.0	В			
2014 IGP Num	neric Action Levels (NALs) ^d	6.0-9.0 ^e	15	100	750	33.2	1,000		262		260				

Notes:

Bold values exceed 2014 IGP NALs listed at the bottom of the table.

Acronyms/Abbreviations:

< n = not detected above the detection limit

B = analyte was present in the associated method blank

EPA = Environmental Protection Agency

IGP = Industrial General Permit

J = concentration reported is an estimated value

mg/L = milligrams per liter

NAL = numeric action level

O&G HEM = oil and grease, hexane extractable material

TSS = total suspended solids

ug/L = micrograms per liter

^a Laboratory Methods: pH by SM4500HB; TSS by SM2540D, O&G by EPA 1664A; metals by EPA 200.8.

^b TS2-I is the combined influent from interceptors SW-3 to SW-7 and does not represent discharge. It is used to evaluate TS-2

^c TS2-E is the effluent of treatment system TS-2, which treats storm water from interceptors SW-3 to SW-7.

^d Numeric Action Level (NAL) in 2014 General Permit for Storm Water Discharges Associated with Industrial Activities (2014 IGP). California State Water Resources Control Board, April 1, 2014. Annual average unless otherwise noted.

^e Instantaneous maximum NAL in 2014 IGP.



Table 3. Proposed Site Work for 2018-2019, Levin Richmond Terminal Corporation

Aspect	Description	Anticipated Completion Date
General	Implement activities (i.e., cap maintenance, storm water monitoring, interceptor cleanout) described in the O&M Plan. ¹	Continuously
	Submit report of O&M performed for the period of July 1, 2018 to June 30, 2019.	On/around August 15, 2019
Concrete Cap	Perform 2018-2019 annual inspection of the cap under oversight of a registered engineer.	June 1, 2019
	Monitor ongoing settlement of railroad track east of Interceptor #5. If repairs are necessary to safely operate railroad, repair track by replacing ties, improving subgrade and replacing track. Follow procedures outlined in O&M Plan (PES, 1998).	As-needed
	Monitor identified cracks, seals, and joints for signs of propagation and/or degradation throughout upland capping system.	Continuously
Gravel Cover	Monitor the gravel cover throughout the Upland Area for signs of thinning or ground exposure.	Continuously
Storm Water System	Continue to treat combined storm water pumped from interceptors SW-3, SW-4, SW-5, SW-6, and SW-7 at treatment system TS-2 using flocculation, settling, and filtration methods.	Continuously

¹ Revised Draft Operations and Maintenance Plan, Upland Capping System, Former United Heckathorn Site, PES Environmental, Inc., March 1999.



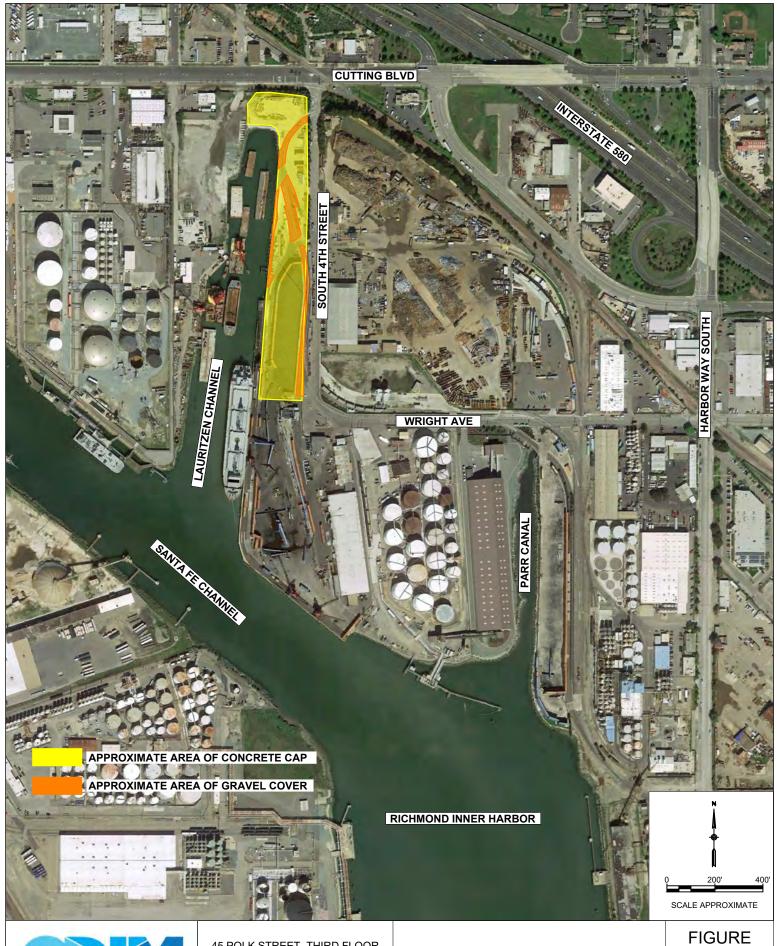
FIGURES





45 POLK STREET, THIRD FLOOR SAN FRANCISCO, CA 94102 WWW.CDIMENGINEERING.COM PH: (415) 498-0535 SITE LOCATION MAP UNITED HECKATHORN SUPERFUND SITE UPLAND CAPPING SYSTEM RICHMOND, CALIFORNIA **FIGURE**

1

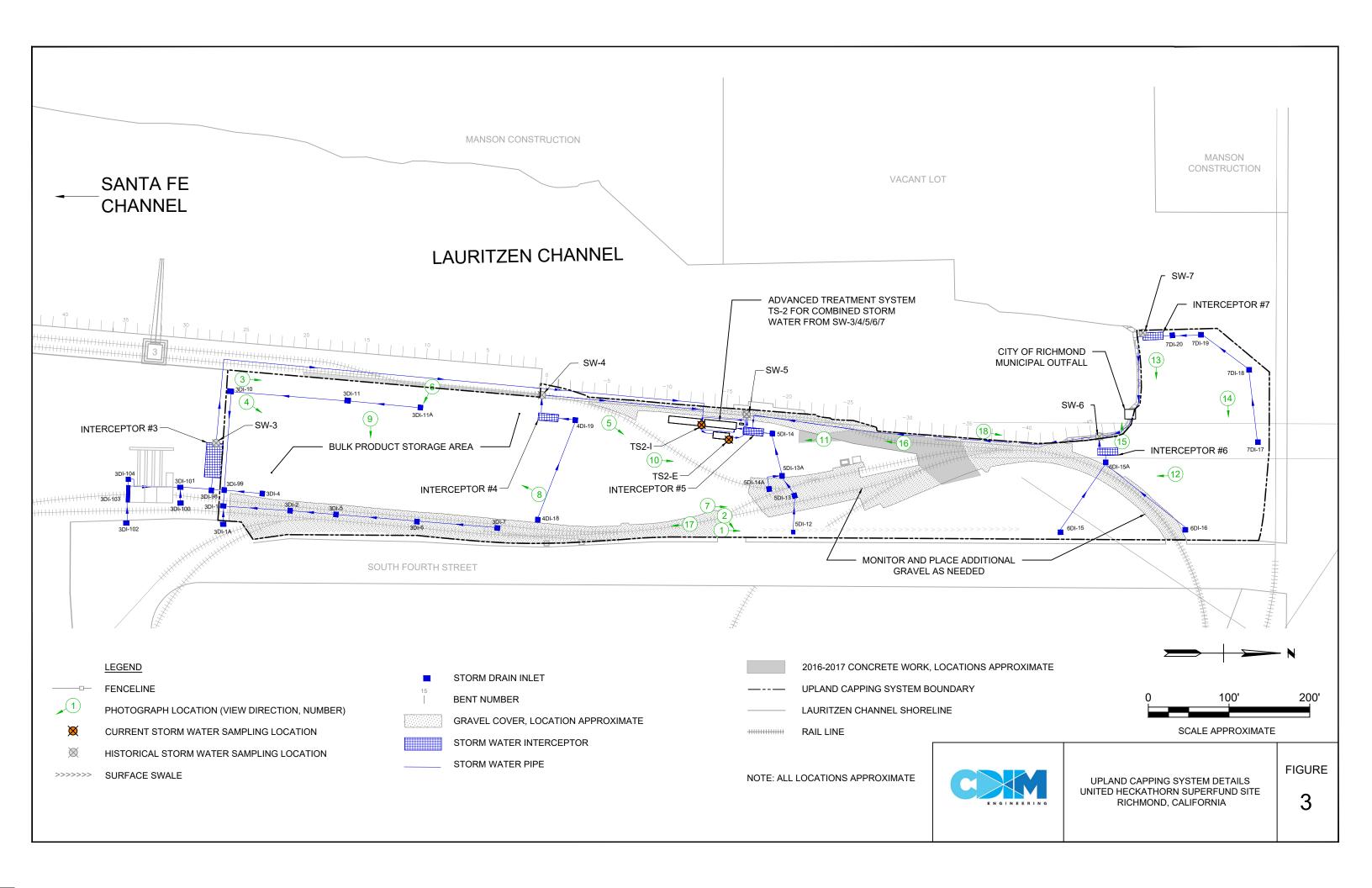


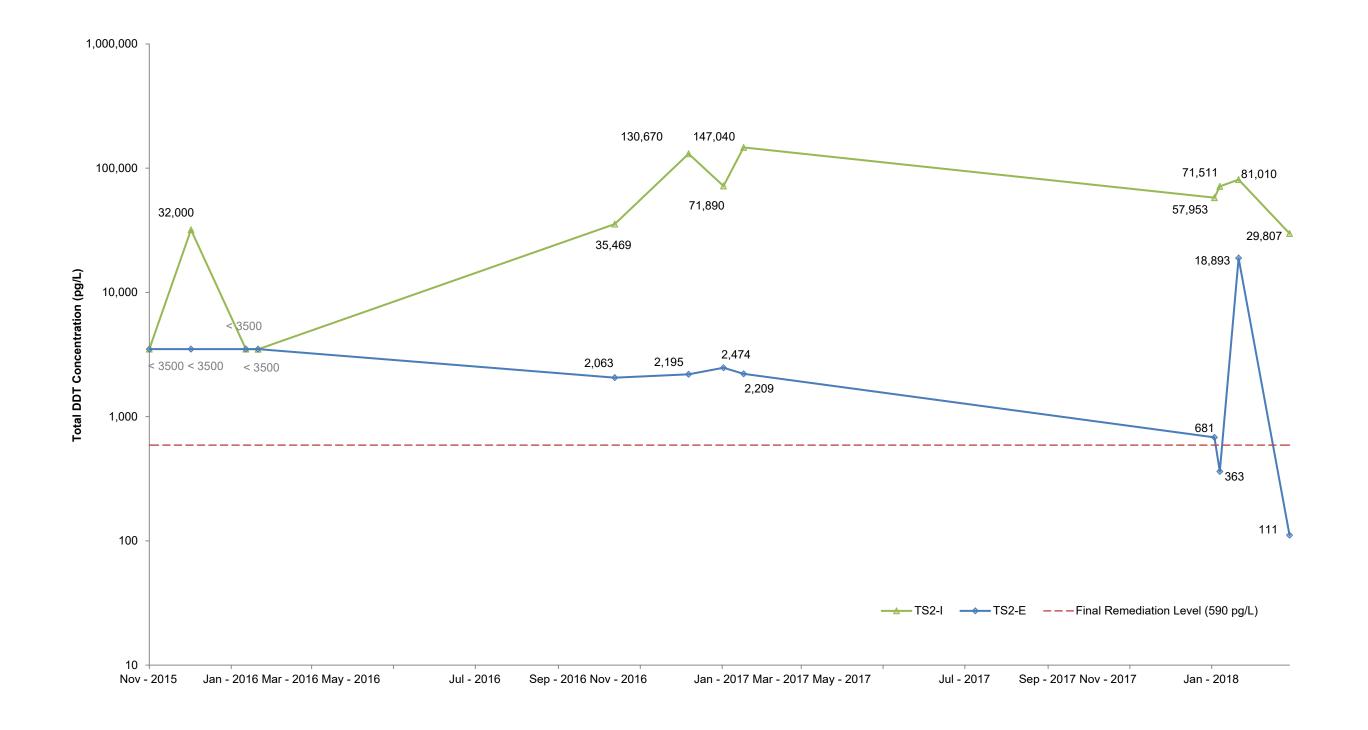


45 POLK STREET, THIRD FLOOR SAN FRANCISCO, CA 94102 WWW.CDIMENGINEERING.COM PH: (415) 498-0535

SITE LAYOUT UNITED HECKATHORN SUPERFUND SITE UPLAND CAPPING SYSTEM RICHMOND, CALIFORNIA

2





 $\frac{\text{NOTES:}}{\text{TOTAL DDT REPRESENTS THE SUM OF DETECTED DDT, DDD, AND DDE CONCENTRATIONS}}\\ \text{AND/OR DETECTION LIMITS FOR NON-DETECTED COMPOUNDS (DENOTED BY < N).}$

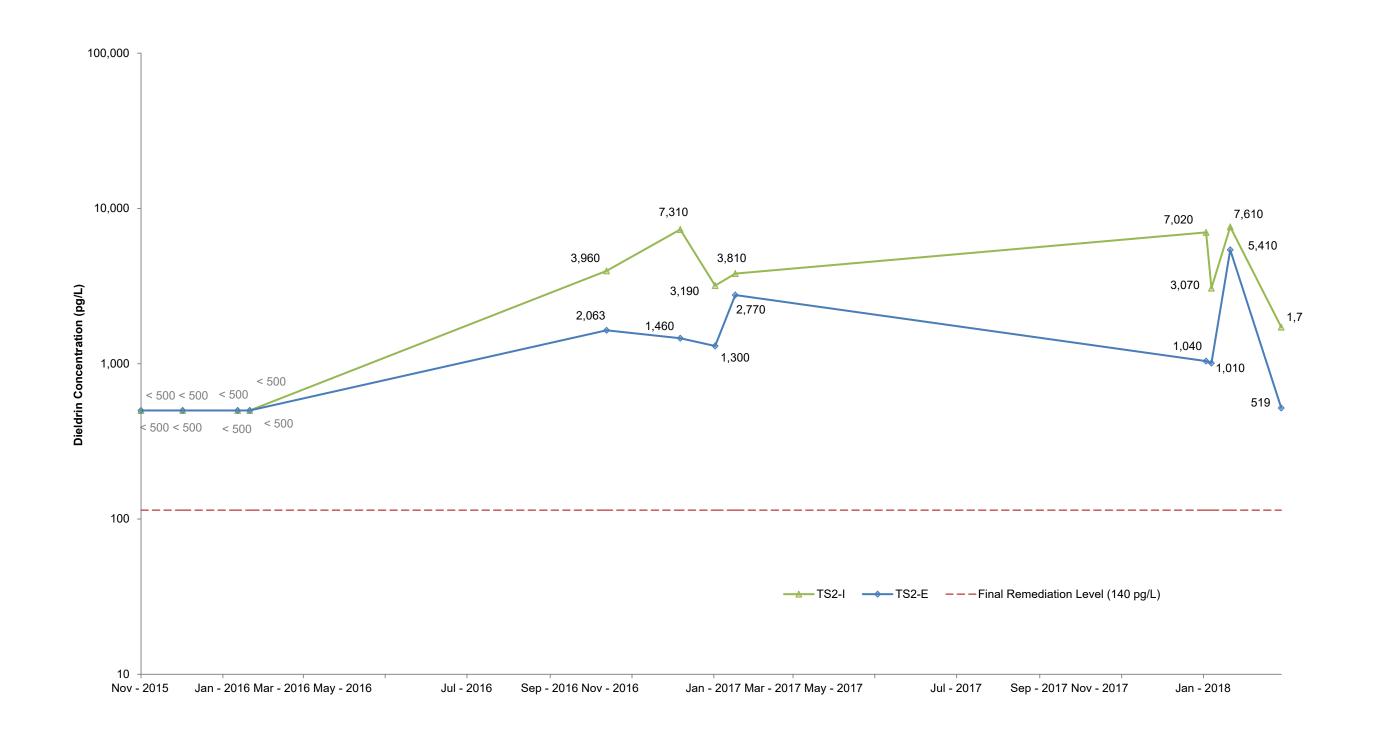
RESULTS REPORTED IN pg/L



TOTAL DDT, 2015-2018
TREATMENT SYSTEM TS-2
UNITED HECKATHORN SUPERFUND SITE
UPLAND CAPPING SYSTEM
RICHMOND, CALIFORNIA

FIGURE

4





APPENDIX A

Upland Capping System Inspection Photographs



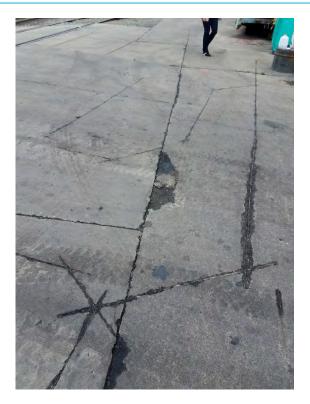


Photo 1 – Photo taken during the 2016-2017 Annual Upland Capping System Inspection. Deteriorated concrete is is visible in the southern portion of the eastern swale. This photo was taken prior to repairs.

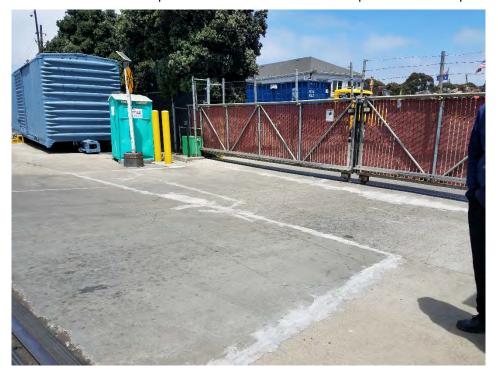


Photo 2 – Deteriorated concrete in the southern portion of the eastern swale has been repaired.



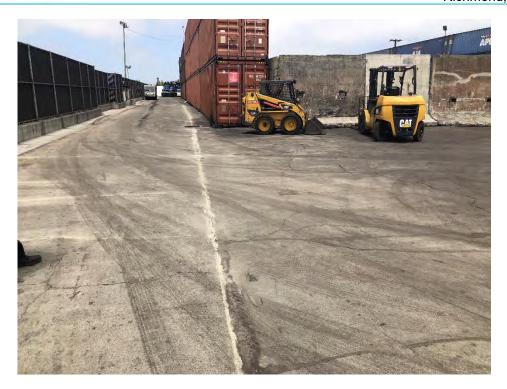


Photo 3 – Looking north along western alley of secondary bulk product storage area. Surficial cracks repaired with sealant.



Photo 4 – Looking northeast at the area south of the secondary bulk product storage area. Surficial cracks repaired with sealant.



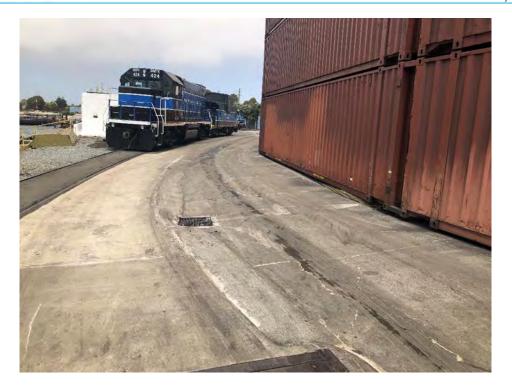


Photo 5 – Surficial cracks repaired with sealant northwest of the secondary storage area.



Photo 6 – Drain inlet located in western alley of secondary bulk product storage area. Surficial cracking repaired with sealant.





Photo 7 – Cracks repaired with sealant at railroad crossing in the southern portion of the eastern swale.

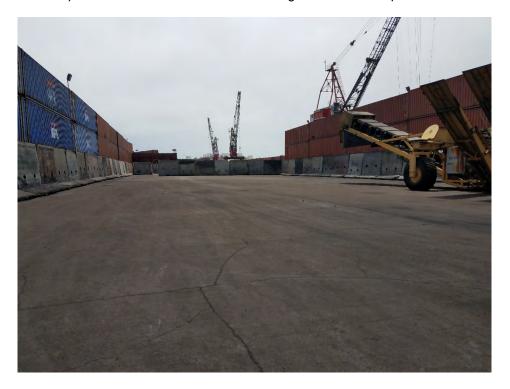


Photo 8 – Looking south: surficial cracking within secondary storage area.



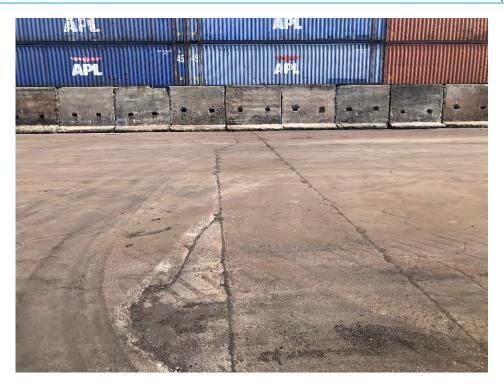


Photo 9 – Looking east: seams and surficial cracking within secondary storage area.



Photo 10 – Looking north at the paved railroad crossing located to the north of the secondary storage area. Small cracks visible in the foreground.



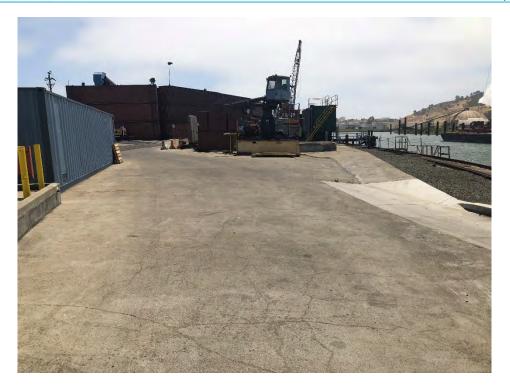


Photo 11 – Looking south at the surficial cracks on concrete cap north of TS-2.

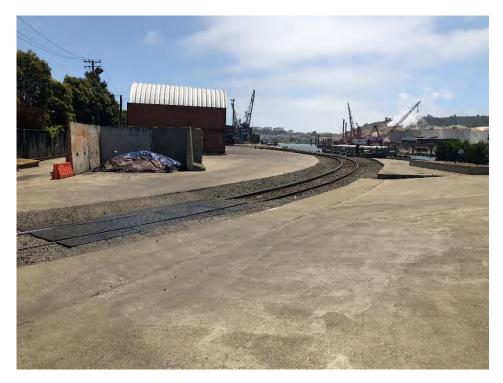


Photo 12 – Looking south near northeast gate. Minor surficial cracking observed in the area.



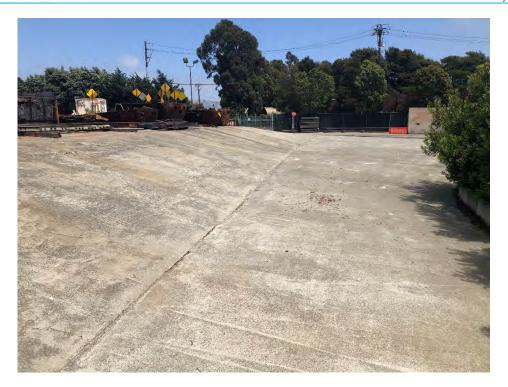


Photo 13 – Looking east at the seam in the concrete cap north of the Lauritzen Channel.



Photo 14 – Looking east at surficial cracks in concrete cap north of the Lauritzen Channel.



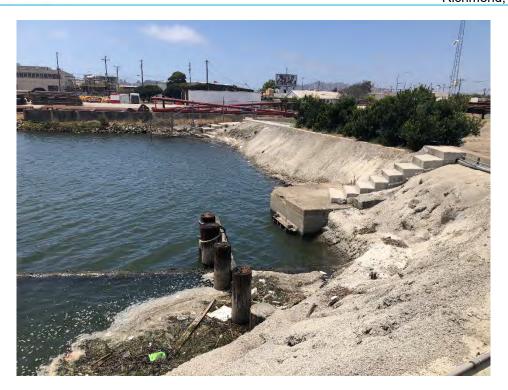


Photo 15 – Looking west toward the municipal outfall. Shotcrete has been applied to stabilize the area along northern shoreline



Photo 16 – Looking south: gravel cover is visible along the Lauritzen Channel north of TS-2.



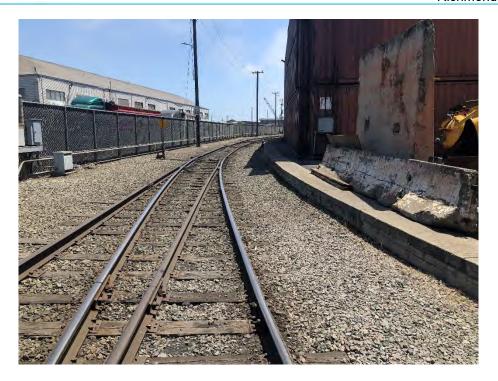


Photo 17 – Looking south along eastern border of the site. The gravel cover has been maintained along rail lines.



Photo 18 – Looking north at the concrete cap and gravel cover along Lauritzen Channel.



APPENDIX B

Laboratory Analytical Reports



Calscience



WORK ORDER NUMBER: 18-01-0231

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

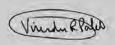
Client Project Name: LRTC Annual Storm Water Sampling / 101-

001-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260



Approved for release on 01/12/2018 by:

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: LRTC Annual Storm Water Sampling / 101-001-LRTC, Tax	ısk 1
---	-------

Work Order Number: 18-01-0231

1	Work Order Narrative	3
2	Sample Summary	4
3	Detections Summary	5
4	Client Sample Data. 4.1 EPA 1664A HEM-SGT: Oil and Grease (Aqueous). 4.2 SM 2540 D Total Suspended Solids (Aqueous). 4.3 SM 4500 H+ B pH (Aqueous). 4.4 EPA 200.8 ICP/MS Metals (Aqueous).	7 7 8 9 10
5	Quality Control Sample Data.5.1 MS/MSD.5.2 Sample Duplicate.5.3 LCS/LCSD.	12 12 14 16
6	Sample Analysis Summary	19
7	Glossary of Terms and Qualifiers	20
8	Chain-of-Custody/Sample Receipt Form	21



Work Order Narrative

Work Order: 18-01-0231 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/05/18. They were assigned to Work Order 18-01-0231.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Sample Summary

Client: CDIM Engineering Work Order:

18-01-0231

LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 45 Polk Street, 3rd floor Project Name: San Francisco, CA 94102-5260

PO Number:

Date/Time 01/05/18 11:10

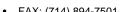
Received:

29 Number of

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-E-180104	18-01-0231-1	01/04/18 08:10	9	Aqueous
TS2-E-180104	18-01-0231-2	01/04/18 08:40	5	Aqueous
TS3-E-180104	18-01-0231-3	01/04/18 09:26	5	Aqueous
TS4-E-180104	18-01-0231-4	01/04/18 09:38	5	Aqueous
TSX-E-DUP-180104	18-01-0231-5	01/04/18 09:40	5	Aqueous





Detections Summary

Client: CDIM Engineering Work Order: 18-01-0231

LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

San Francisco, CA 94102-5260 01/05/18 Received:

Attn: Scott Bourne Page 1 of 2

Client SampleID						
Analyte	Result	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
TS1-E-180104 (18-01-0231-1)						
Copper	0.00246		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00447		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0607		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0169	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.157		0.0500	mg/L	EPA 200.8	N/A
рН	6.81	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS2-E-180104 (18-01-0231-2)						
Copper	0.00309		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00260	J	0.000449*	mg/L	EPA 200.8	N/A
Zinc	0.102		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0165	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.135		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	5.3		1.0	mg/L	SM 2540 D	N/A
рН	7.13	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS3-E-180104 (18-01-0231-3)						
Copper	0.00249		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00174		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0441		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0117	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.106		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	1.4		1.0	mg/L	SM 2540 D	N/A
рН	7.48	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS4-E-180104 (18-01-0231-4)						
Copper	0.000855	J	0.000140*	mg/L	EPA 200.8	N/A
Lead	0.000239	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0590		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.00878	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.702		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	2.1		1.0	mg/L	SM 2540 D	N/A
рН	7.19	BV,BU	0.01	pH units	SM 4500 H+ B	N/A

^{*} MDL is shown



Detections Summary

Client: CDIM Engineering

Work Order: 18-01-0231

45 Polk Street, 3rd floor

LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 Project Name:

San Francisco, CA 94102-5260

Received:

01/05/18

Page 2 of 2 Attn: Scott Bourne

Client SampleID						
<u>Analyte</u>	Result	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
TSV E DUD 190104 (19 01 0221 F)						
TSX-E-DUP-180104 (18-01-0231-5)						
Copper	0.000880	J	0.000140*	mg/L	EPA 200.8	N/A
Lead	0.000244	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0586		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.00920	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.733		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	2.2		1.0	mg/L	SM 2540 D	N/A
рН	7.21	BV,BU	0.01	pH units	SM 4500 H+ B	N/A

Subcontracted analyses, if any, are not included in this summary.

^{*} MDL is shown



HEM - SGT: Oil and Grease

Analytical Report

CDIM Engineering Date Received: 01/05/18 18-01-0231 45 Polk Street, 3rd floor Work Order: San Francisco, CA 94102-5260 Preparation: N/A Method: **EPA 1664A**

Units:

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page	1	OT	1	

mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180104	18-01-0231-1-E	01/04/18 08:10	Aqueous	N/A	01/08/18	01/08/18 17:55	I0108HEML2
Comment(s): - Results were evaluated to	the MDL (DL), cond	entrations >= to	the MDL (DI	but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resul	<u>lt </u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
HEM - SGT: Oil and Grease	ND	1	1.0	0.81	1.00		

152-E-160104	10-		08:40	queous	N/A	01/06/16	17:55	IU I UONEIVILZ
Comment(s):	- Results were evaluated to the	MDL (DL), conce	entrations >= to th	e MDL (DL)	but < RL (LOQ)), if found, are o	qualified with a "	J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>ıalifiers</u>
HEM - SGT: Oil	and Grease	ND	1.0		0.81	1.00		

TS3-E-180104	18-01-	0231-3-D	01/04/18 09:26	Aqueous	N/A	01/08/18	01/08/18 17:55	I0108HEML2
Comment(s):	- Results were evaluated to the MD	L (DL), conc	entrations >= to	the MDL (DL	but < RL (LOC	(a), if found, are o	qualified with a "	J" flag.
<u>Parameter</u>		Resul	<u>t</u> <u>F</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	alifiers
HEM - SGT: Oil	and Grease	ND	1	.0	0.81	1.00		

TS4-E-180104	18-01	-0231-4-D	01/04/18 09:38	Aqueous	N/A	01/08/18	01/08/18 17:55	I0108HEML2
Comment(s):	- Results were evaluated to the M	DL (DL), conce	entrations >= t	the MDL (DL) but < RL (L	OQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Result	<u>!</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
HEM - SGT: Oil	and Grease	ND	•	1.0	0.81	1.00		

TSX-E-DUP-180104	18-01-0231-5-D	01/04/18 09:40	Aqueous	N/A	01/08/18	01/08/18 17:55	I0108HEML2
Comment(s): - Results were evaluated to	the MDL (DL), cond	centrations >=	to the MDL (DL) but < RL (L0	OQ), if found, are	qualified with a "	J" flag.
<u>Parameter</u>	<u>Resu</u>	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ıalifiers</u>
HEM - SGT: Oil and Grease	ND		1.0	0.81	1.00		

IVIE	etnod Blank	099-16-92 <i>1-11</i>	N/A	Aqueous	N/A	01/08/18	01/08/18 17:55	IU1U8HEML2	
Со	mment(s):	- Results were evaluated to the MDL (DL), c	oncentrations	>= to the MDL (DL	_) but < RL	(LOQ), if found, are	qualified with a	"J" flag.	_
<u>Pa</u>	<u>rameter</u>	<u>Re</u>	<u>esult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>	

1.0

0.81

1.00

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

ND



Solids, Total Suspended

Analytical Report

CDIM Engineering Date Received: 01/05/18 45 Polk Street, 3rd floor Work Order: 18-01-0231 San Francisco, CA 94102-5260 Preparation: N/A Method: SM 2540 D Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 1 of 1

Qualifiers

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180104	18-01-0231-1-I	01/04/18 08:10	Aqueous	N/A	01/08/18	01/08/18 14:00	I0108TSSL1
Comment(s): - Results were evaluated to	the MDL (DL), cond	entrations >= t	o the MDL (DL) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resul	<u> t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	2	Qualifiers
Solids, Total Suspended	ND		1.0	0.83	1.00		

TS2-E-180104	18-0		01/04/18 08:40	Aqueous I	N/A	01/08/18	01/08/18 14:00	I0108TSSL1
Comment(s):	- Results were evaluated to the N	IDL (DL), concei	ntrations >= to t	ne MDL (DL)	but < RL (LOQ), if found, are q	ualified with a ".	l" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
Solids, Total Sus	spended	5.3	1.0		0.83	1.00		

TS3-E-180104	18-01-023		01/04/18 09:26	Aqueous	N/A	01/08/18	01/08/18 14:00	I0108TSSL1
Comment(s):	- Results were evaluated to the MDL (DL), conce	ntrations >= to t	he MDL (DL) but < RL (L	OQ), if found, are	qualified with a "	J" flag.
<u>Parameter</u>		Result	<u>RL</u>	i	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>ıalifiers</u>
Solids, Total Sus	spended	1.4	1.0)	0.83	1.00		

TS4-E-180104	18-01-0231	-4-E 01/0- 09:3		s N/A	01/08/18	01/08/18 I0108TSSL1 14:00
Comment(s):	- Results were evaluated to the MDL (D	L), concentrati	ions >= to the MDL (DL) but < RL (L	OQ), if found, are	qualified with a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Solids, Total Sus	spended	2.1	1.0	0.83	1.00	

TSX-E-DUP-18	0104	18-01-0231-5-E	01/04/18 09:40	Aqueous	N/A	01/08/18	01/08/18 14:00	I0108TSSL1
Comment(s):	- Results were evaluated t	o the MDL (DL), conc	entrations >= to	the MDL (DL) but < RL (L	OQ), if found, are	qualified with a	"J" flag.
Parameter		Resul	t F	RL	MDL	DF		Qualifiers

1.0

0.83

1.00

Method Blank	099-09-010-8771	N/A	Aqueous I	N/A	01/08/18	01/08/18 14:00	I0108TSSL1
Comment(s):	- Results were evaluated to the MDL (DL), con	centration	s >= to the MDL (DL)	but <	RL (LOQ), if found, ar	e qualified with a	"J" flag.

Parameter Result <u>RL</u> **MDL** <u>DF</u> Solids, Total Suspended ND 1.0 0.83 1.00

2.2

RL: Reporting Limit. MDL: Method Detection Limit. DF: Dilution Factor.



Analytical Report

 CDIM Engineering
 Date Received:
 01/05/18

 45 Polk Street, 3rd floor
 Work Order:
 18-01-0231

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 SM 4500 H+ B

 Units:
 pH units

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 1 of 1

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180104		18-01-0231-1-A	01/04/18 08:10	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to	the MDL (DL), conc	entrations >= to	the MDL (DL) but < RL (LO	Q), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>		Resul	<u>t </u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	Qualifiers
рН		6.81	(0.01	0.01	1.00	E	BV,BU

TS2-E-180104	18-01-0231-2-A	01/04/18 08:40	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >=	to the MDL (DL	.) but < RL (LC	Q), if found, are	qualified with a	'J" flag.
<u>Parameter</u>	Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>
рН	7.13		0.01	0.01	1.00	B/	/,BU

TS3-E-180104	18-01-0231-3-A	01/04/18 09:26	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >=	to the MDL (DL) but < RL (L	OQ), if found, are	qualified with	a "J" flag.
<u>Parameter</u>	Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qualifiers</u>
рН	7.48		0.01	0.01	1.00		BV,BU

TS4-E-180104	18-01-0231-4-A	01/04/18 09:38	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >= to	the MDL (DL)	but < RL (LOQ), if found, are q	ualified with a '	J" flag.
<u>Parameter</u>	Resi	<u>ult </u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>
рН	7.19	(0.01	0.01	1.00	B\	/,BU

TSX-E-DUP-18	0104 1	8-01-0231-5-A	01/04/18 09:40	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to the	ne MDL (DL), cond	entrations >=	to the MDL (DL) but < RL (LOQ), if found, are	e qualified with	a "J" flag.
<u>Parameter</u>		Resul	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	!	<u>Qualifiers</u>
рН		7.21		0.01	0.01	1.00		BV,BU



Analytical Report

 CDIM Engineering
 Date Received:
 01/05/18

 45 Polk Street, 3rd floor
 Work Order:
 18-01-0231

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 EPA 200.8

 Units:
 mg/L

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

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Client Sample N	umber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180104		18-01-0231-1-B	01/04/18 08:10	Aqueous	ICP/MS 03	01/09/18	01/09/18 19:00	180109LA2
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >=	to the MDL (DL) but < RL (LOC), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resu</u>	ı <u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.002	246	0.00100	0.000140	1.00		
Lead		0.004	147	0.00100	0.0000898	1.00		
Zinc		0.060)7	0.00500	0.000479	1.00		
Aluminum		0.016	69	0.0500	0.00331	1.00	J	
Iron		0.157	7	0.0500	0.00926	1.00		

TS2-E-180104	18-	-01-0231-2-B	01/04/18 08:40	Aqueous I	CP/MS 03	01/09/18	01/09/18 19:03	180109LA2
Comment(s):	- Results were evaluated to the	MDL (DL), conce	entrations >= to	the MDL (DL)	but < RL (LOQ)	, if found, are q	ualified with a "	J" flag.
<u>Parameter</u>		<u>Result</u>	<u>R</u>	<u>:L</u>	<u>MDL</u>	<u>DF</u>	<u>Qι</u>	<u>ıalifiers</u>
Copper		0.0030	0 0	.00100	0.000140	1.00		
Zinc		0.102	0	.00500	0.000479	1.00		
Aluminum		0.0165	5 0	.0500	0.00331	1.00	J	
Iron		0.135	0	.0500	0.00926	1.00		

TS2-E-180104	18-01-0231-2-B	01/04/18 08:40	Aqueous	ICP/MS 03	01/09/18	01/11/18 12:04	180109LA2
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >=	to the MDL (DI) but < RL (LO	Q), if found, a	re qualified with a	a "J" flag.

 Parameter
 Result
 RL
 MDL
 DF
 Qualifiers

 Lead
 0.00260
 0.00500
 0.000449
 5.00
 J

TS3-E-180104	18-01-0231-3	3-B 01/0 09:2	04/18 Aqueous 26	s ICP/MS 03	01/09/18	01/09/18 180109LA2 19:05
Comment(s):	- Results were evaluated to the MDL (DL)), concentrat	tions >= to the MDL ((DL) but < RL (LOQ), if found, are	qualified with a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Copper		0.00249	0.00100	0.000140	1.00	
Lead		0.00174	0.00100	0.0000898	1.00	
Zinc		0.0441	0.00500	0.000479	1.00	
Aluminum		0.0117	0.0500	0.00331	1.00	J
Iron		0.106	0.0500	0.00926	1.00	



Method Blank

Analytical Report

CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0231
San Francisco, CA 94102-5260 Preparation: N/A
Method: EPA 200.8

Units: mg/L

01/09/18

01/09/18

180109LA2

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-E-180104	18-01-0231-4-B	01/04/18 09:38	Aqueous	ICP/MS 03	01/09/18	01/09/18 19:44	180109LA2
Comment(s): - Results were	evaluated to the MDL (DL), con-	centrations >= t	to the MDL (DI	_) but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u>Resu</u>	ı <u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>ualifiers</u>
Copper	0.000	0855	0.00100	0.000140	1.00	J	
Lead	0.000	0239	0.00100	0.0000898	1.00	J	
Zinc	0.059	90	0.00500	0.000479	1.00		
Aluminum	0.008	378	0.0500	0.00331	1.00	J	
Iron	0.702	2	0.0500	0.00926	1.00		

TSX-E-DUP-180104	18-01-0231-5-B	01/04/18 09:40	Aqueous	ICP/MS 03	01/09/18	01/09/18 19:46	180109LA2
Comment(s): - Results we	ere evaluated to the MDL (DL), cond	entrations >= t	to the MDL (DL) but < RL (LOQ), if found, are	qualified with a "J	" flag.
<u>Parameter</u>	Resul	<u>lt</u> .	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qua	alifiers
Copper	0.000	880	0.00100	0.000140	1.00	J	
Lead	0.000	244	0.00100	0.0000898	1.00	J	
Zinc	0.058	66	0.00500	0.000479	1.00		
Aluminum	0.009	20	0.0500	0.00331	1.00	J	
Iron	0.733		0.0500	0.00926	1.00		

Aqueous ICP/MS 03

			7.4.000.0			18:50
Comment(s):	- Results were evaluated to the MDL (DL),	concentration	ns >= to the MDL (DL) but < RL (LOQ), if found, are qu	ualified with a "J" flag.
<u>Parameter</u>	<u> </u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Copper	N	ID	0.00100	0.000140	1.00	
Lead	N	ID	0.00100	0.0000898	1.00	
Zinc	N	ID	0.00500	0.000479	1.00	
Aluminum	N	ID	0.0500	0.00331	1.00	
Iron	N	ID	0.0500	0.00926	1.00	

099-16-094-2153 N/A



Quality Control - Spike/Spike Duplicate

01/05/18 **CDIM Engineering** Date Received: 45 Polk Street, 3rd floor Work Order: 18-01-0231 N/A San Francisco, CA 94102-5260 Preparation:

Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

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Quality Control Sample ID	Туре		Matrix	Matrix Instrumen		Date Prepared	Date Analyzed		MS/MSD Batch Numb	
TS1-E-180104	Sample	Sample		Aqueous N/A		01/08/18	01/08/18	17:55	I0108HEMS	2
TS1-E-180104	Matrix Spike		Aqueou	ıs N/A		01/08/18	01/08/18	17:55	I0108HEMS	2
TS1-E-180104	Matrix Spike	Duplicate	Aqueou	ıs N/A		01/08/18	01/08/18	17:55	I0108HEMS	2
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	ND	19.23	16.63	86	17.02	89	64-132	2	0-34	



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Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0231
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Quality Control Sample ID	Туре		Matrix	Ins	strument	Date Prepared	Date Ana	lyzed	MS/MSD Ba	ch Number
TS1-E-180104	Sample		Aqueou	s ICI	P/MS 03	01/09/18	01/09/18	19:00	180109SA2	
TS1-E-180104	Matrix Spike		Aqueou	s ICI	P/MS 03	01/09/18	01/09/18	18:55	180109SA2	
TS1-E-180104	Matrix Spike I	Duplicate	Aqueou	s ICI	P/MS 03	01/09/18	01/09/18	18:58	180109SA2	
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	0.002464	0.1000	0.1010	99	0.1028	100	80-120	2	0-20	
Lead	0.004466	0.1000	0.1132	109	0.1133	109	80-120	0	0-20	
Zinc	0.06069	0.1000	0.1580	97	0.1887	128	80-120	18	0-20	3
Aluminum	ND	0.1000	0.1111	111	0.1097	110	80-120	1	0-20	
Iron	0.1574	5.100	5.859	112	5.841	111	80-120	0	0-20	

RPD: Relative Percent Difference. CL: Control Limits



Quality Control - Sample Duplicate

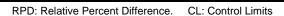
CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0231
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

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Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-0298-2	Sample	Aqueous	N/A	01/08/18 00:00	01/08/18 14:00	I0108TSSD2
18-01-0298-2	Sample Duplicate	Aqueous	N/A	01/08/18 00:00	01/08/18 14:00	I0108TSSD2
<u>Parameter</u>		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	Qualifiers
Solids, Total Suspended		916.0	896.0	2	0-20	



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Quality Control - Sample Duplicate

CDIM Engineering Date Received: 01/05/18 45 Polk Street, 3rd floor Work Order: 18-01-0231 N/A San Francisco, CA 94102-5260 Preparation:

Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
TS1-E-180104	Sample	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
TS1-E-180104	Sample Duplicate	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Parameter		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	<u>Qualifiers</u>
рН		6.810	6.720	1	0-25	

RPD: Relative Percent Difference. CL: Control Limits



Quality Control - LCS/LCSD

CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0231
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 1664A

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

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Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	e Analyzed	LCS/LCSD Ba	itch Number
099-16-927-77	LCS	Aqı	leous	N/A	01/08/18	01/0	08/18 17:55	10108HEML2	
099-16-927-77	LCSD	Aqu	ueous	N/A	01/08/18	01/0	08/18 17:55	I0108HEML2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	16.50	82	16.60	83	64-132	1	0-34	

RPD: Relative Percent Difference. CL: Control Limits



Quality Control - LCS/LCSD

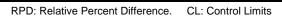
CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0231
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 2 of 3

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD B	atch Number
099-09-010-8771	LCS	Aqı	ieous	N/A	01/08/18	01/0	8/18 14:00	10108TSSL1	
099-09-010-8771	LCSD	Aqı	ieous	N/A	01/08/18	01/0	8/18 14:00	I0108TSSL1	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0	100.0	100	97.00	97	80-120	3	0-20	





Quality Control - LCS

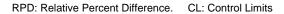
CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0231
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 $\,$

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Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-094-2153	LCS	Aqueous	ICP/MS 03	01/09/18	01/09/18 18:53	180109LA2
Parameter		Spike Added	Conc. Recovere	ed LCS %Re	ec. %Rec	. CL Qualifiers
Copper		0.1000	0.09918	99	80-120)
Lead		0.1000	0.1074	107	80-120)
Zinc		0.1000	0.1032	103	80-120)
Aluminum		0.1000	0.09105	91	80-120)
Iron		5.100	5.310	104	80-120)





Sample Analysis Summary Report

Work Order: 18-01-0231				Page 1 of 1
<u>Method</u>	Extraction	Chemist ID	Instrument	Analytical Location
EPA 1664A	N/A	784	N/A	1
EPA 200.8	N/A	598	ICP/MS 03	1
SM 2540 D	N/A	1009	N/A	1
SM 4500 H+ B	N/A	1139	PH 1	1



SG

Χ

Glossary of Terms and Qualifiers

Work Order: 18-01-0231 Page 1 of 1

Qualifiers	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.

% Recovery and/or RPD out-of-range. Ζ Analyte presence was not confirmed by second column or GC/MS analysis.

The sample extract was subjected to Silica Gel treatment prior to analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Return to Contents

			8-0-7-2-7-2-7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	COC Number:			~	Pageof		SDG number:			Sample Specific Notes:	MS/MSD (collect triple sample volume)								-	metals listed above.	100 Date/Time: 1/8 1400	Date/Time.	y: Date√Timp:
ERSONNEL:	Yes xN	Canada 4-file EDWEDD required? X Yes a No	specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems.	Protocol ID/path:	L		1-15	DS Y	lids (;	los t	oHB e (El	A 450 M 450 Suspension of the second of the	C) Hq IstoT S IiO	×××	×××	×××	×××	× × × ×				1 1 1, 2 1, 4 1, 4 1 1 1 1 1	Level II Report. Report with reporting limit and method detection limit. Analyze and report only the metals listed above	Received to Company	Received by: Company	Received by:
-		and the original chain-of-custody form to:	sao@cdimengineering.com mec@cdimengineering.com	Project Manager: Scott Bourne	101-002-1 RTC Task 1	101-700-FLK	Sampled by: 人にく	Sample date(s): ハリリ (名	Analysis Turnaround Time:		Standard	Ŧ	Sample Sample # of Sample Date Time Matrix Cont.	P8 W 0180 81/h/1	>x 1 0000 11,	58 3750	58 5938 85	5x 7 0000 7			Field Filtered (X):	=HNO ₃ ; 5=NaOH; 6= Other	1		Company: Defertime:	Company: Date/Time:
Chain of Custody Record	- 8	CalScience Environmental Lab	5063 Commercial Circle, Suite H Concord, CA 94520 Phone: 925-689-9022		COM ENGINEEDING	CDIM ENGINEERING	45 POLK STREET, 3RD FLOOR	SAN FRANCISCO, CA	(415) 498-0535 PHONE		Job Name; LRTC Annual Storm Water Sampling	Address: Levin Richmond Terminal, 402 Wright Avenue, Richmond, CA 94804	Lab ID Sample Identification	TS1-E- 120/04	2 TS2-E- 1901 ON	3 TS3-E- \100\04	4 TS4-E- 190104	€ TSX-E-DUP- 90 04				Preservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4=HNO ₅ ; 5=NaOH; 6= Other	Special Instructions/QC Requirements & Comments:	Relinquished by:	7 V	Relinquished by:

Chain of Custody Record





800-322-5555 www.gso.com

Ship From

CAL SCIENCE- CONCORD
ALAN KEMP
5063 COMMERCIAL CIRCLE
#H
CONCORD, CA 94520

Ship To CEL SAMPLE RECEIVING 7440 LINCOLN WAY GARDEN GROVE, CA 92841

COD: \$0.00
Weight: 0 lb(s)
Reference:
CDIM

Delivery Instructions:

Signature Type: STANDARD

Tracking #: 538983120





ORC GARDEN GROVE



D92845A



7511148

Print Date: 1/4/2018 3:30 PM

Package 2 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.



Calscience

WORK ORDER NUMBER: 18-01-0231

SAMPLE RECEIPT CHECKLIST

COOLER	0	F
--------	---	---

CLIENT: CDI	: M		DATE	: <u>01</u>	10512	2018
,	0°C – 6.0°C, not frozen except sedime	•	<i>i</i>			
	.2°C); Temperature (w/o CF): 2 · 2		4°C;	⊠ Blani	k □S	ample
, , ,	erature criteria (PM/APM contacted by:					
	erature criteria but received on ice/chill	•	mpling			
	ent temperature; placed on ice for tran	sport by courier		.		~
Ambient Temperature: ☐ Air	□ Filter			Checke	ed by:l	
CUSTODY SEAL:						
Cooler Present and I	ntact	☐ Not Present ☐	J N/A	Checke	ed by: 🔣	
Sample(s) □ Present and I	ntact ☐ Present but Not Intact	Not Present D	N/A	Checke	ed by: <u>/@</u>	50
SAMPLE CONDITION:				Yes	No	N/A
Chain-of-Custody (COC) docu	ment(s) received with samples					
COC document(s) received co	mplete					
☐ Sampling date ☐ Samp	oling time □ Matrix □ Number of cor	ntainers				
☐ No analysis requested 【	☐ Not relinquished ☐ No relinquished	d date □ No relinqui	shed time			
Sampler's name indicated on 0	coc					
Sample container label(s) cons	sistent with COC					
	I in good condition					
d .	s requested					
	alyses requested			_		
	ng time					
Aqueous samples for certai	in analyses received within 15-minute	holding time				
pH 🛘 Residual Chlorine	e 🛘 Dissolved Sulfide 🗘 Dissolved 0	Oxygen				
Proper preservation chemical(s	s) noted on COC and/or sample conta	iner		Ø		
Unpreserved aqueous sam	ple(s) received for certain analyses					
☐ Volatile Organics ☐ Tot	tal Metals Dissolved Metals					
Acid/base preserved samples	- pH within acceptable range					
Container(s) for certain analysis	is free of headspace			. 🗆		Ø
☐ Volatile Organics ☐ Dis	ssolved Gases (RSK-175) 🛘 Dissolve	ed Oxygen (SM 4500)				
☐ Carbon Dioxide (SM 450	00) 🗆 Ferrous Iron (SM 3500) 🗖 Hyd	drogen Sulfide (Hach))			
Tedlar™ bag(s) free of conder	nsation					Ø
CONTAINER TYPE:		(Trip Blank L	ot Numbe	er:)
8	OAna ₂ 🗆 100PJ 🗆 100PJna ₂ 🗆 125AGB					
4	GBs (pH_2)					
	(pH_2)					
8	16ozCGJ 🗆 Sleeve () 🗆 EnCores® (
	orbent Tube PUF Other N					
	, C = Clear, E = Envelope, G = Glass, J = .					000
	ered, h = HCl, n = HNO ₃ , na = NaOH, na ₂					(A) /
$s = H_2SO_4$, $u = ultra$	a-pure, $x = Na_2SO_3+NaHSO_4.H_2O$, znna =	Zn (CH ₃ CO ₂) ₂ + NaOH		Reviewe	ed by:	800



Calscience



WORK ORDER NUMBER: 18-01-0232

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

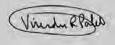
Client Project Name: LRTC Annual Storm Water Sampling / 101-

001-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260



Approved for release on 01/12/2018 by: Virendra Patel

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name:	LRTC Annual Storm Water Sampling / 101-001-LRTC, Ta	sk 1

Work Order Number: 18-01-0232

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3	Detections Summary	5
4	Client Sample Data. 4.1 EPA 1664A HEM-SGT: Oil and Grease (Aqueous). 4.2 SM 2540 D Total Suspended Solids (Aqueous). 4.3 SM 4500 H+ B pH (Aqueous). 4.4 EPA 200.8 ICP/MS Metals (Aqueous).	7 7 8 9
5	Quality Control Sample Data.5.1 MS/MSD.5.2 Sample Duplicate.5.3 LCS/LCSD.	12 12 14 16
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Work Order Narrative

Work Order: 18-01-0232 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/05/18. They were assigned to Work Order 18-01-0232.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Sample Summary

Client: CDIM Engineering Work Order:

18-01-0232 Project Name:

LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 45 Polk Street, 3rd floor San Francisco, CA 94102-5260

PO Number:

Date/Time 01/05/18 11:10

Received:

21 Number of

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-I-180104	18-01-0232-1	01/04/18 08:00	5	Aqueous
TS2-I-180104	18-01-0232-2	01/04/18 08:28	5	Aqueous
TS3-I-180104	18-01-0232-3	01/04/18 09:02	5	Aqueous
TS4-I-180104	18-01-0232-4	01/04/18 09:47	5	Aqueous
SW1-180104	18-01-0232-5	01/04/18 08:00	1	Aqueous





Detections Summary

Client: CDIM Engineering Work Order: 18-01-0232

LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

San Francisco, CA 94102-5260 01/05/18 Received:

Page 1 of 2 Attn: Scott Bourne

Client SampleID						
<u>Analyte</u>	Result	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
TO4 1 400404 (40 04 0000 4)						
TS1-I-180104 (18-01-0232-1)	4.0		4.0	/I	EDA 4004A	N1/A
HEM - SGT: Oil and Grease	4.6		1.0	mg/L	EPA 200 8	N/A
Copper	0.0890		0.00500	mg/L	EPA 200.8	N/A
Lead	0.565		0.00500	mg/L	EPA 200.8	N/A
Zinc	1.08		0.0250	mg/L	EPA 200.8	N/A
Aluminum	1.72		0.250	mg/L	EPA 200.8	N/A
Iron	6.23		0.250	mg/L	EPA 200.8	N/A
Solids, Total Suspended	138	DV DII	1.00	mg/L	SM 2540 D	N/A
pH	7.44	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS2-I-180104 (18-01-0232-2)						
HEM - SGT: Oil and Grease	1.3		1.0	mg/L	EPA 1664A	N/A
Copper	0.0708		0.00500	mg/L	EPA 200.8	N/A
Lead	0.118		0.00500	mg/L	EPA 200.8	N/A
Zinc	0.360		0.0250	mg/L	EPA 200.8	N/A
Aluminum	1.25		0.250	mg/L	EPA 200.8	N/A
Iron	7.69		0.250	mg/L	EPA 200.8	N/A
Solids, Total Suspended	332		1.00	mg/L	SM 2540 D	N/A
рН	6.89	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS3-I-180104 (18-01-0232-3)						
HEM - SGT: Oil and Grease	2.4		1.0	mg/L	EPA 1664A	N/A
Copper	0.0220		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0456		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.183		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.251		0.0500	mg/L	EPA 200.8	N/A
Iron	0.664		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	10		1.0	mg/L	SM 2540 D	N/A
рН	7.74	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS4-I-180104 (18-01-0232-4)						
HEM - SGT: Oil and Grease	1.1		1.0	mg/L	EPA 1664A	N/A
Copper	0.00913		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0208		0.0100	mg/L	EPA 200.8	N/A
Zinc	0.142		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.160		0.0500	mg/L	EPA 200.8	N/A
Iron	0.633		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	36		1.0	mg/L	SM 2540 D	N/A
pH	6.92	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
÷				•		

^{*} MDL is shown



Detections Summary

Client: CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Work Order: 18-01-0232

LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 Project Name:

01/05/18 Received:

Attn: Scott Bourne Page 2 of 2

Client SampleID						
<u>Analyte</u>	<u>Result</u>	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
SW1-180104 (18-01-0232-5)						
Copper	0.0811		0.00500	mg/L	EPA 200.8	N/A
Lead	0.508		0.00500	mg/L	EPA 200.8	N/A
Zinc	0.974		0.0250	mg/L	EPA 200.8	N/A
Aluminum	1.52		0.250	mg/L	EPA 200.8	N/A
Iron	5.65		0.250	mg/L	EPA 200.8	N/A

Subcontracted analyses, if any, are not included in this summary.

^{*} MDL is shown



Analytical Report

CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0232
San Francisco, CA 94102-5260 Preparation: N/A
Method: EPA 1664A

Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID	
TS1-I-180104	18-01-0232-1-D	01/04/18 08:00	Aqueous	N/A	01/08/18	01/08/18 17:55	I0108HEML2	
Comment(s): - Results were evaluated to	the MDL (DL), cond	centrations >= t	o the MDL (DI	but < RL (LO	Q), if found, are	qualified with a	"J" flag.	
<u>Parameter</u>	<u>Resu</u>	<u>lt</u> .	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>	
HEM - SGT: Oil and Grease	4.6		1.0	0.81	1.00			

TS2-I-180104	18-01-0232	2-2-D 01/04/18 08:28	Aqueous	N/A	01/08/18	01/08/18 I0108HEML2 17:55
Comment(s):	- Results were evaluated to the MDL (D	L), concentrations	>= to the MDL (DI	L) but < RL (L	OQ), if found, are	qualified with a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
HEM - SGT: Oil	and Grease	1.3	1.0	0.81	1.00	

TS3-I-180104	18-01-0232		/04/18 Aqued :02	ous N/A	01/08/18	01/08/18 I 17:55	0108HEML2
Comment(s):	- Results were evaluated to the MDL (D	L), concentra	ations >= to the MD	DL (DL) but < RL (LOQ), if found, are o	qualified with a "J"	flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	<u>lifiers</u>
HEM - SGT: Oil	and Grease	2.4	1.0	0.81	1.00		

TS4-I-180104	18-01-0232	2-4-D	01/04/18 09:47	Aqueous	N/A	01/08/18	01/08/18 17:55	I0108HEML2
Comment(s):	- Results were evaluated to the MDL (D	L), conc	entrations >= t	o the MDL (DL	.) but < RL (LOQ), if found, are q	ualified with a '	'J" flag.
<u>Parameter</u>		Resul	<u>t</u> !	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>
HEM - SGT: Oil	and Grease	1.1		1.0	0.81	1.00		

Method Blank	099-	16-927-77	N/A	Aqueous	N/A	01/08/18	01/08/18 17:55	I0108HEML2
Comment(s):	- Results were evaluated to the N	/IDL (DL), conce	entrations >= to	the MDL (DL)	but < RL (LOC	Q), if found, are o	qualified with a "	'J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RI</u>	<u>L</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>
HEM - SGT: Oil a	and Grease	ND	1.	0	0.81	1.00		



Analytical Report

CDIM Engineering Date Received: 01/05/18 45 Polk Street, 3rd floor Work Order: 18-01-0232 San Francisco, CA 94102-5260 Preparation: N/A Method: SM 2540 D Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180104	18-01-0232-1-E	01/04/18 08:00	Aqueous	N/A	01/08/18	01/08/18 16:00	I0108TSSL2
Comment(s): - Results were evaluated to	o the MDL (DL), cond	centrations >= t	o the MDL (DI	L) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt</u> <u>l</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Solids, Total Suspended	138	•	1.00	0.829	1.00		

TS2-I-180104		18-01-0232-2-E	01/04/18 08:28	Aqueous	N/A	01/08/18	01/08/18 16:00	I0108TSSL2
Comment(s):	- Results were evaluated t	the MDL (DL), cond	entrations >=	to the MDL (DL	_) but < RL (L0	DQ), if found, are	qualified with	a "J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qualifiers</u>
Solids, Total Su	spended	332		1.00	0.829	1.00		

TS3-I-180104	18-01-	0232-3-E	01/04/18 09:02	Aqueous	N/A	01/08/18	01/08/18 16:00	I0108TSSL2
Comment(s):	- Results were evaluated to the MD	L (DL), conc	entrations >= to	the MDL (DL	but < RL (LOC	Q), if found, are o	qualified with a "	J" flag.
<u>Parameter</u>		Resul	<u>t</u> <u>F</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	alifiers
Solids, Total Su	spended	10	1	.0	0.83	1.00		

TS4-I-180104	18-01-0232-	-4-E 01/04/1 09:47	8 Aqueous	N/A	01/08/18	01/08/18
Comment(s):	- Results were evaluated to the MDL (DL	_), concentration	s >= to the MDL (DI	L) but < RL (L	OQ), if found, are	qualified with a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Solids, Total Su	spended	36	1.0	0.83	1.00	

Method Blank	099-09-	010-8780	N/A	Aqueous	N/A	01/08/18	01/08/18 16:00	I0108TSSL2
Comment(s):	- Results were evaluated to the MDL	(DL), conc	entrations >= 1	to the MDL (DL) but < RL (LOQ), if found, are o	qualified with a "	J" flag.
<u>Parameter</u>		Resul	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
Solids, Total Sus	spended	ND		1.0	0.83	1.00		

Method Blank	099-0	9-010-8772 N/	A Aqueous	N/A	01/08/18	01/08/18 16:00	I0108TSSL2
Comment(s):	- Results were evaluated to the M	DL (DL), concentra	ations >= to the MDL (D	L) but < RL (L0	OQ), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	9	<u>Qualifiers</u>
Solids, Total Sus	spended	ND	1.0	0.83	1.00		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

CDIM Engineering Date Received: 01/05/18 45 Polk Street, 3rd floor Work Order: 18-01-0232 N/A San Francisco, CA 94102-5260 Preparation:

> SM 4500 H+ B Method: Units: pH units

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 Page 1 of 1

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180104		18-01-0232-1-A	01/04/18 08:00	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to	o the MDL (DL), cond	entrations >= 1	to the MDL (DL) but < RL (LO	Q), if found, are	e qualified with a	ı "J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	Qualifiers
рН		7.44		0.01	0.01	1.00	E	BV,BU

TS2-I-180104	18-01-0232-2-A	01/04/18 08:28	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >	= to the MDL (DL	_) but < RL (LOQ), if found, are	qualified with	a "J" flag.
<u>Parameter</u>	Resi	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	9	<u>Qualifiers</u>
рН	6.89		0.01	0.01	1.00	1	BV,BU

TS3-I-180104	18-01-0232-3-A	01/04/18 09:02	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >=	to the MDL (DL	but < RL (LC	DQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	Qualifiers
рН	7.74		0.01	0.01	1.00	E	BV,BU

TS4-I-180104	18-01-0232-4-A	01/04/18 09:47	Aqueous F	PH 1	N/A	01/05/18 20:00	I0105PHD1
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >= to the	ne MDL (DL)	but < RL (LOQ)	, if found, are q	ualified with a ".	J" flag.
<u>Parameter</u>	Resu	<u>ult RL</u>		<u>MDL</u>	<u>DF</u>	<u>Qu</u>	alifiers
рН	6.92	0.0	1	0.01	1.00	BV	,BU



Analytical Report

CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0232
San Francisco, CA 94102-5260 Preparation: N/A
Method: EPA 200.8

Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 1 of 2

Client Sample N	Client Sample Number		Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180104		18-01-0232-1-B	01/04/18 08:00	Aqueous	ICP/MS 03	01/09/18	01/09/18 19:59	180109LA2
Comment(s):	- Results were evaluated	to the MDL (DL), cond	centrations >=	to the MDL (DI	_) but < RL (LOC	Q), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	9	<u>Qualifiers</u>
Copper		0.089	90	0.00500	0.000699	5.00		
Lead		0.565	5	0.00500	0.000449	5.00		
Zinc		1.08		0.0250	0.00239	5.00		
Aluminum		1.72		0.250	0.0165	5.00		
Iron		6.23		0.250	0.0463	5.00		

TS2-I-180104	18-01-0232-2-B	01/04/18 08:28	Aqueous	ICP/MS 03	01/09/18	01/09/18 18010 19:56	09LA2
Comment(s):	- Results were evaluated to the MDL (DL), co	oncentrations >=	to the MDL (DL	.) but < RL (LOC), if found, are	qualified with a "J" flag.	
<u>Parameter</u>	Re	<u>sult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>	ž
Copper	0.0	708	0.00500	0.000699	5.00		
Lead	0.1	18	0.00500	0.000449	5.00		
Zinc	0.3	860	0.0250	0.00239	5.00		
Aluminum	1.2	25	0.250	0.0165	5.00		
Iron	7.6	69	0.250	0.0463	5.00		

TS3-I-180104	18-01-0232-3-B	01/04/18 09:02	Aqueous	ICP/MS 03	01/09/18	01/09/18 20:01	180109LA2
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >=	to the MDL (DL	but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	ı <u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
Copper	0.022	20	0.00100	0.000140	1.00		
Lead	0.04	56	0.00100	0.0000898	1.00		
Zinc	0.183	3	0.00500	0.000479	1.00		
Aluminum	0.25	Ì	0.0500	0.00331	1.00		
Iron	0.664	1	0.0500	0.00926	1.00		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

180109LA2

180109LA2



TS4-I-180104

Method Blank

Analytical Report

CDIM Engineering Date Received: 01/05/18 18-01-0232 45 Polk Street, 3rd floor Work Order: San Francisco, CA 94102-5260 Preparation: N/A Method: EPA 200.8 Units:

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 2 of 2

mg/L

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-I-180104		18-01-0232-4-B	01/04/18 09:47	Aqueous	ICP/MS 03	01/09/18	01/09/18 20:04	180109LA2
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >=	to the MDL (DI	L) but < RL (LOC	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.009	913	0.00100	0.000140	1.00		
Zinc		0.142	2	0.00500	0.000479	1.00		
Aluminum		0.160)	0.0500	0.00331	1.00		
Iron		0.633	3	0.0500	0.00926	1.00		

Aqueous

Aqueous

ICP/MS 03

ICP/MS 03

01/09/18

01/09/18

01/11/18

01/09/18

		09:47			12:	02
Comment(s):	- Results were evaluated to the MD	L (DL), concentratio	ns >= to the MDL (DL) but < RL (LOQ), it	found, are qualif	ied with a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Lead		0.0208	0.0100	0.000898	10.0	

01/04/18

18-01-0232-4-B

099-16-094-2153

SW1-180104	18-01-0232-5-A	01/04/18 Aque 08:00	ous ICP/MS 03		01/09/18 20:06	180109LA2
Comment(s):	- Results were evaluated to the MDL (DL), conc	entrations >= to the MD	DL (DL) but < RL (LO	Q), if found, are qu	alified with a "	J" flag.
<u>Parameter</u>	Resul	<u>It</u> <u>RL</u>	<u>MDL</u>	<u>DF</u>	Qu	alifiers
Copper	0.081	1 0.00500	0.000699	5.00		
Lead	0.508	0.00500	0.000449	5.00		
Zinc	0.974	0.0250	0.00239	5.00		
Aluminum	1.52	0.250	0.0165	5.00		
Iron	5.65	0.250	0.0463	5.00		

					18:5	U
Comment(s):	- Results were evaluated to the MDL (I	DL), concentrations	>= to the MDL (DL) but < RL (LOQ), if	found, are qualifie	ed with a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Copper		ND	0.00100	0.000140	1.00	
Lead		ND	0.00100	0.0000898	1.00	
Zinc		ND	0.00500	0.000479	1.00	
Aluminum		ND	0.0500	0.00331	1.00	
Iron		ND	0.0500	0.00926	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



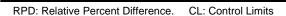
Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/05/18 45 Polk Street, 3rd floor Work Order: 18-01-0232

N/A San Francisco, CA 94102-5260 Preparation: Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 Page 1 of 2

Quality Control Sample ID	Туре		Matrix	Inst	rument	Date Prepared	Date Ana	llyzed	MS/MSD Ba	tch Number
18-01-0231-1	Sample		Aqueou	s N/A		01/08/18	01/08/18	17:55	I0108HEMS	2
18-01-0231-1	Matrix Spike		Aqueou	s N/A		01/08/18	01/08/18	17:55	I0108HEMS	2
18-01-0231-1	Matrix Spike	Duplicate	Aqueou	s N/A		01/08/18	01/08/18	17:55	I0108HEMS	2
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	ND	19.23	16.63	86	17.02	89	64-132	2	0-34	







Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0232

San Francisco, CA 94102-5260 Preparation: N/A Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-001- Page 2 of 2 LRTC, Task 1

Quality Control Sample ID	Туре		Matrix	Ins	trument	Date Prepared	Date Ana	lyzed	MS/MSD Ba	tch Number
TS2-I-180104	Sample		Aqueou	s ICF	P/MS 03	01/09/18	01/09/18	19:56	180109SA2	A
TS2-I-180104	Matrix Spike		Aqueou	s ICF	P/MS 03	01/09/18	01/09/18	19:51	180109SA2	A
TS2-I-180104	Matrix Spike	Duplicate	Aqueou	s ICF	P/MS 03	01/09/18	01/09/18	19:54	180109SA2	A
Parameter	<u>Sample</u> <u>Conc.</u>	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	0.07082	0.1000	0.1701	99	0.1649	94	80-120	3	0-20	
Lead	0.1184	0.1000	0.2353	117	0.2288	110	80-120	3	0-20	
Zinc	0.3599	0.1000	0.4700	110	0.4523	92	80-120	4	0-20	
Aluminum	1.254	0.1000	1.508	4X	1.421	4X	80-120	4X	0-20	Q
Iron	7.691	5.100	13.49	114	12.95	103	80-120	4	0-20	





Quality Control - Sample Duplicate

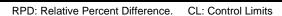
CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0232
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 1 of 2

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
TS1-I-180104	Sample	Aqueous	N/A	01/08/18 00:00	01/08/18 16:00	I0108TSSD3
TS1-I-180104	Sample Duplicate	Aqueous	N/A	01/08/18 00:00	01/08/18 16:00	I0108TSSD3
Parameter		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	Qualifiers
Solids, Total Suspended		138.0	136.0	1	0-20	



Page 2 of 2



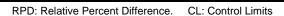
Quality Control - Sample Duplicate

CDIM Engineering Date Received: 01/05/18 45 Polk Street, 3rd floor Work Order: 18-01-0232 San Francisco, CA 94102-5260

N/A Preparation: Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-0231-1	Sample	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
18-01-0231-1	Sample Duplicate	Aqueous	PH 1	N/A	01/05/18 20:00	I0105PHD1
Parameter		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	Qualifiers
pН		6.810	6.720	1	0-25	





Quality Control - LCS/LCSD

CDIM Engineering Date Received: 45 Polk Street, 3rd floor Work Order: 18-01-0232 San Francisco, CA 94102-5260

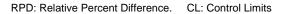
N/A Preparation: Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 $\,$

Page 1 of 4

01/05/18

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	atch Number
099-16-927-77	LCS	Aqı	ieous	N/A	01/08/18	01/0	8/18 17:55	10108HEML2	
099-16-927-77	LCSD	Aqı	ieous	N/A	01/08/18	01/0	8/18 17:55	I0108HEML2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	16.50	82	16.60	83	64-132	1	0-34	





Quality Control - LCS/LCSD

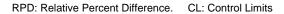
CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0232
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 2 of 4

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	atch Number
099-09-010-8780	LCS	Aqı	ieous	N/A	01/08/18	01/0	8/18 16:00	10108TSSL2	
099-09-010-8780	LCSD	Aqı	ieous	N/A	01/08/18	01/0	8/18 16:00	I0108TSSL2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0	95.00	95	98.00	98	80-120	3	0-20	





Quality Control - LCS/LCSD

CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0232
San Francisco, CA 94102-5260 Preparation: N/A

Preparation: N/A Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1

Page 3 of 4

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	atch Number
099-09-010-8772	LCS	Aqı	ieous	N/A	01/08/18	01/0	8/18 16:00	10108TSSL2	
099-09-010-8772	LCSD	Aqı	ieous	N/A	01/08/18	01/0	8/18 16:00	I0108TSSL2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0	95.00	95	98.00	98	80-120	3	0-20	





Quality Control - LCS

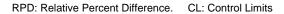
CDIM Engineering Date Received: 01/05/18
45 Polk Street, 3rd floor Work Order: 18-01-0232
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-001-LRTC, Task 1 $\,$

Page 4 of 4

Quality Control Sample ID	Туре	Matrix	Instrument [Date Prepared	Date Analyzed	LCS Batch Number
099-16-094-2153	LCS	Aqueous	ICP/MS 03	01/09/18	01/09/18 18:53	180109LA2
<u>Parameter</u>	·	Spike Added	Conc. Recovere	ed LCS %Re	ec. %Rec	. CL Qualifiers
Copper		0.1000	0.09918	99	80-120)
Lead		0.1000	0.1074	107	80-120)
Zinc		0.1000	0.1032	103	80-120)
Aluminum		0.1000	0.09105	91	80-120)
Iron		5.100	5.310	104	80-120)





Sample Analysis Summary Report

Work Order: 18-01-0232				Page 1 of 1
Method	<u>Extraction</u>	Chemist ID	Instrument	Analytical Location
EPA 1664A	N/A	784	N/A	1
EPA 200.8	N/A	598	ICP/MS 03	1
SM 2540 D	N/A	1009	N/A	1
SM 4500 H+ B	N/A	1086	PH 1	1



Glossary of Terms and Qualifiers

Work Order: 18-01-0232 Page 1 of 1

Qualifiers	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.

- X % Recovery and/or RPD out-of-range.Z Analyte presence was not confirmed by second column or GC/MS analysis.
 - Solid Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Cha	Chain of Custody Record				ISN	rruction	IS FOR LA	INSTRUCTIONS FOR LAB PERSONNEL:	NEL:							
ience E Comme	CalScience Environmental Lab 5063 Commercial Circle, Suite H	Please send analytic results, electronic deliverables and the original chain-of-custody form to: sab@cdimengineering.com	c results, electron in-of-custody form ing.com	ic deliverables 1 to:	Geo Endn	GeoTracker EDF required? Equis 4-file EDWEDD required? Specify analytic/prep method and c	DF required DWEDD r	GeoTracker EDF required? o Yes x No Equis 4-file EDWEDD required? X Yes □ No Specify analytic/prep method and detection limit in report.	x Yes ction limit in re	No No n report.			Ě	S		
Concord, CA 94520 Phone: 925-689-	5A 94520 925-689-9022	mec@caimengineering.com	ing.com		Call	ry us of any immediate	/ anomalo ily with any	Notify us of any anomaious peaks in GC of other scans. Call immediately with any questions or problems.	oc or otner r problems.	scans.				7070-10-01	70	Resource
	Client Contact	Project Manager:	Scott Bourne		Protocol	Protocol ID/path:									COC Number:	XXXXXI 9324
CDIM ENGINEERING	EERING	Project ID:	101-002-LRTC, Task 1	ask 1		(00										
OLK STF	45 POLK STREET, 3RD FLOOR	Sampled by:	対のこ													wile control
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(415) 498-0535	15 PHONE	Analysis	Analysis Turnaround T	Time:] pc		,9 ¹ ,1									
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Name: Lr	JOB Name: LK1 C Annual Storm water Sampling Levin Richmond Terminal. Address: Any Winder Disharmond CA MARIA	ds)	(Specify Days or Hours)	(S	lyte (1	puədsn	etals- v									
Lab ID	Sample Identification	Sample Date	Sample Sample Time Matrix	Sample # of Matrix Cont.	enA M8) Hq	R letoT	HEW)							ALCOHOLD STATE OF THE STATE OF	Sample Specific Notes:	ii
1	TS1-1-190104	3// h/1	2000	5 x \ \ \ \ \		×	×									
7	TS2-1- 190104	,		3/5	×	×	×									
1 m	TS3-1- 190104		3902	%	×	×	×									
	TS4-1- 190104		4480	S. S.	×	×	×									
	401061-1MS	→	00/60				×									

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Prest cial Inst	Preservation Used: 1= Ice, 2= HCi; 3= H ₂ SO ₃ ; 4=HNO ₃ ; 5=NaOH; 6= Other Special Instructions/QC Requirements & Comments: Level II Report	- 1	5=NaOH; 6= Otner	reporting lim	it and m	ethod de	etection I	Imit. Ana	yze and	report o	nly the n	metals li	sted abov	.e.		
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800-322-5555 www.gso.com



Ship From

CAL SCIENCE- CONCORD ALAN KEMP 5063 COMMERCIAL CIRCLE #H CONCORD, CA 94520

Ship To
CEL
SAMPLE RECEIVING
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

COD: \$0.00 Weight: 0 lb(s) Reference: CDIM

Delivery Instructions:

Signature Type: STANDARD

Tracking #: 538983119



ORC GARDEN GROVE



D92845A



Print Date: 1/4/2018 3:30 PM

Package 1 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

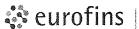
Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.





WORK ORDER NUMBER: 18-01-0232

Calscience SAMPLE RECEIPT CHECKLIST CO	DOLER_	ان ا	F Ì
	:: <u>01 /</u>		
TEMPERATURE: (Criteria: 0.0°C - 6.0°C, not frozen except sediment/tissue) Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): °C (w/ CF): °C; Sample(s) outside temperature criteria (PM/APM contacted by:) Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling Sample(s) received at ambient temperature; placed on ice for transport by courier Ambient Temperature: □ Air □ Filter	□ Blank Checked	□ Sa	ample
CUSTODY SEAL: Cooler	Checked Checked		
SAMPLE CONDITION: Chain-of-Custody (COC) document(s) received with samples COC document(s) received complete Sampling date Sampling time Matrix Number of containers	/	No	N/A
□ No analysis requested □ Not relinquished □ No relinquished date □ No relinquished time Sampler's name indicated on COC Sample container label(s) consistent with COC Sample container(s) intact and in good condition Proper containers for analyses requested Sufficient volume/mass for analyses requested Samples received within holding time			
Aqueous samples for certain analyses received within 15-minute holding time pH □ Residual Chlorine □ Dissolved Sulfide □ Dissolved Oxygen Proper preservation chemical(s) noted on COC and/or sample container Unpreserved aqueous sample(s) received for certain analyses □ Volatile Organics □ Total Metals □ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range Container(s) for certain analysis free of headspace Uvolatile Organics Dissolved Gases (RSK-175) Dissolved Oxygen (SM 4500) Carbon Dioxide (SM 4500) Ferrous Iron (SM 3500) Hydrogen Sulfide (Hach)	. 🗆	0	
Tedlar™ bag(s) free of condensation CONTAINER TYPE: Aqueous: □ VOA □ VOAh □ VOAna₂ □ 100PJ □ 100PJna₂ □ 125AGB □ 125AGBh □ 125AGBp ☑ 125P□ 250AGB □ 250CGBs (pH_2) □ 250PB ☑ 250PBn (pH_2) □ 500AGB □ 500AGJ □ 500AG□ 1AGB □ 1AGBs (pH_2) ☑ 1AGBs (O&G) ☑ 1PB □ 1PBna (pH_12) □ □ □ □ Solid: □ 4ozCGJ □ 8ozCGJ □ 16ozCGJ □ Sleeve () □ EnCores® () □ TerraCores® () □ □ □ Air: □ Tedlar™ □ Canister □ Sorbent Tube □ PUF □ □ Other Matrix (): □ □ □ Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Res	er: B	B znna (p 2)	0H9) 0PB
Preservative: $h = huffered$ $f = filtered$ $h = HCl. n = HNO_2 na = NaOH, na_2 = Na_2S_2O_3, p = H_3PO_4. Labele$	d/Checke	d by: 16	153

 $s = \text{H}_2 \text{SO}_4, \, u = \text{ultra-pure}, \, x = \text{Na}_2 \text{SO}_3 + \text{NaHSO}_4. \\ \text{H}_2 \text{O}, \, znna = \text{Zn} \, (\text{CH}_3 \text{CO}_2)_2 + \text{NaOH}_2 \text{O}_3 + \text{NaHSO}_4. \\ \text{CO}_2 \text{O}_2 + \text{NaOH}_2 \text{O}_3 + \text{NaHSO}_4. \\ \text{CO}_3 \text{O}_3 + \text{NaHSO}_4. \\ \text{CO}_3 \text{O}_3 + \text{NaHSO}_4. \\ \text{CO}_4 \text{O}_3 \text{O}_3 + \text{NaHSO}_4. \\ \text{CO}_5 \text{O}_5 \text{O}_5 \text{O}_5 \text{O}_5 \text{O}_5 + \text{NaHSO}_4. \\ \text{CO}_5 \text{O}_5 \text{O}_5 \text{O}_5 \text{O}_5 + \text{NaHSO}_4. \\ \text{CO}_5 \text{O}_5 \text{O}_5 \text{O}_5 \text{O}_5 \text{O}_5 \text{O}_5 + \text{NaHSO}_4. \\ \text{CO}_5 \text{O}_5 \text{O}_5$

Reviewed by: 80



January 29, 2018

Vista Work Order No. 1800015

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on January 05, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-002-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

Work Order 1800015 Page 1 of 12

Vista Work Order No. 1800015 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

Work Order 1800015 Page 2 of 12

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800015-01	TS2-E-180104	04-Jan-18 08:40	05-Jan-18 10:02	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L

Vista Project: 1800015 Client Project: 101-002-LRTC, Task 1

Work Order 1800015 Page 4 of 12

ANALYTICAL RESULTS

Work Order 1800015 Page 5 of 12

Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8A0064 Lab Sample: B8A0064-BLK1

Sample Size: 1.00 L Date Extracted: 11-Jan-2018 11:39 Date Analyzed: 23-Jan-18 21:32 Column: ZB-50

Analyte C	onc. (pg/L)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	5.23			J	IS	13C6-Hexachlorobenzene	45.9	5 - 120	
alpha-BHC	ND	2.59			IS	13C6-alpha-BHC	74.7	32 - 130	
Lindane (gamma-BHC)	ND	3.11			IS	13C6-Lindane (gamma-BHC)	86.8	11 - 120	
beta-BHC	ND	3.29			IS	13C6-beta-BHC	87.8	32 - 130	
delta-BHC	ND	2.58			IS	13C6-delta-BHC	88.3	36 - 137	
Heptachlor	ND	0.879			IS	13C10-Heptachlor	70.6	5 - 120	
Aldrin	ND	1.55			IS	13C12-Aldrin	71.7	5 - 120	
Oxychlordane	ND	4.30			IS	13C10-Oxychlordane	83.4	23 - 135	
cis-Heptachlor Epoxide	ND	3.39			IS	13C10-cis-Heptachlor Epoxide	86.6	27 - 137	
trans-Heptachlor Epoxide	e ND	10.5			IS	13C10-trans-Chlordane (gamma)	91.0	21 - 132	
trans-Chlordane (gamma)) ND	4.23			IS	13C10-trans-Nonachlor	84.7	14 - 136	
trans-Nonachlor	ND	4.36			IS	13C9-Endosulfan I (alpha)	82.8	15 - 148	
cis-Chlordane (alpha)	ND	4.27			IS	13C12-2,4'-DDE	84.6	47 - 160	
Endosulfan I (alpha)	ND	5.32			IS	13C12-4,4'-DDE	86.2	47 - 160	
2,4'-DDE	ND	3.11			IS	13C12-Dieldrin	93.1	40 - 151	
4,4'-DDE	ND	3.79			IS	13C12-Endrin	104	35 - 155	
Dieldrin	ND	2.36			IS	13C10-cis-Nonachlor	87.6	36 - 139	
Endrin	ND	3.17			IS	13C9-Endosulfan II (beta)	96.8	5 - 122	
cis-Nonachlor	ND	4.84			IS	13C12-2,4'-DDD	95.1	5 - 199	
Endosulfan II (beta)	ND	6.71			IS	13C12-2,4'-DDT	86.1	5 - 199	
2,4'-DDD	ND	3.78			IS	13C12-4,4'-DDD	95.1	5 - 120	
2,4'-DDT	ND	5.33			IS	13C12-4,4'-DDT	87.8	5 - 120	
4,4'-DDD	ND	3.91			IS	13C9-Endosulfan Sulfate	89.9	15 - 148	
4,4'-DDT	ND	6.23			IS	13C12-Methoxychlor	87.4	5 - 120	
Endosulfan Sulfate	ND	5.53			IS	13C10-Mirex	82.5	5 - 120	
4,4'-Methoxychlor	ND	2.82			IS	13C12-Endrin Aldehyde	56.7	15 - 148	
Mirex	ND	1.20			IS	13C12-Endrin Ketone	90.6	15 - 148	
Endrin Aldehyde	ND	4.06							
Endrin Ketone	ND	5.28							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Work Order 1800015 Page 6 of 12



Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8A0064 Lab Sample: B8A0064-BS1

Sample Size: 1.00 L Date Extracted: 11-Jan-2018 11:39 Date Analyzed: 24-Jan-18 18:03 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
Hexachlorobenzene	1010	1000	101	50 - 120	IS	13C6-Hexachlorobenzene	42.8	5 - 120
alpha-BHC	991	1000	99.1	50 - 120	IS	13C6-alpha-BHC	76.7	17 - 141
Lindane (gamma-BHC)	989	1000	98.9	50 - 120	IS	13C6-Lindane (gamma-BHC)	87.2	5 - 124
beta-BHC	966	1000	96.6	50 - 120	IS	13C6-beta-BHC	95.0	17 - 141
delta-BHC	974	1000	97.4	50 - 120	IS	13C6-delta-BHC	94.0	16 - 150
Heptachlor	974	1000	97.4	50 - 120	IS	13C10-Heptachlor	77.8	5 - 128
Aldrin	996	1000	99.6	50 - 120	IS	13C12-Aldrin	66.2	5 - 126
Oxychlordane	842	1000	84.2	50 - 120	IS	13C10-Oxychlordane	88.2	5 - 144
cis-Heptachlor Epoxide	968	1000	96.8	50 - 120	IS	13C10-cis-Heptachlor Epoxide	92.3	8 - 146
trans-Heptachlor Epoxide	1010	1000	101	50 - 120	IS	13C10-trans-Chlordane (gamma)	77.9	15 - 144
trans-Chlordane (gamma)	1080	1000	108	50 - 120	IS	13C10-trans-Nonachlor	85.9	13 - 149
trans-Nonachlor	932	1000	93.2	50 - 120	IS	13C9-Endosulfan I (alpha)	78.8	5 - 144
cis-Chlordane (alpha)	876	1000	87.6	50 - 120	IS	13C12-2,4'-DDE	74.1	26 - 169
Endosulfan I (alpha)	982	1000	98.2	50 - 120	IS	13C12-4,4'-DDE	83.5	26 - 169
2,4'-DDE	1030	1000	103	24 - 123	IS	13C12-Dieldrin	84.1	19 - 161
4,4'-DDE	993	1000	99.3	50 - 120	IS	13C12-Endrin	97.3	20 - 157
Dieldrin	948	1000	94.8	50 - 120	IS	13C10-cis-Nonachlor	88.1	17 - 154
Endrin	1020	1000	102	50 - 120	IS	13C9-Endosulfan II (beta)	87.5	5 - 120
cis-Nonachlor	900	1000	90.0	50 - 120	IS	13C12-2,4'-DDD	95.7	14 - 200
Endosulfan II (beta)	1040	1000	104	5 - 200	IS	13C12-2,4'-DDT	94.5	14 - 200
2,4'-DDD	1040	1000	104	50 - 120	IS	13C12-4,4'-DDD	96.4	14 - 200
2,4'-DDT	1030	1000	103	50 - 120	IS	13C12-4,4'-DDT	104	13 - 200
4,4'-DDD	1000	1000	100	42 - 120	IS	13C9-Endosulfan Sulfate	79.6	5 - 144
4,4'-DDT	1020	1000	102	50 - 120	IS	13C12-Methoxychlor	100	8 - 200
Endosulfan Sulfate	942	1000	94.2	50 - 120	IS	13C10-Mirex	88.9	5 - 138
4,4'-Methoxychlor	1010	1000	101	50 - 120	IS	13C12-Endrin Aldehyde	45.6	5 - 144
Mirex	980	1000	98.0	50 - 120	IS	13C12-Endrin Ketone	88.2	5 - 144
Endrin Aldehyde	932	1000	93.2	50 - 134				
Endrin Ketone	921	1000	92.1	50 - 134				

LCL-UCL - Lower control limit - upper control limit

Work Order 1800015 Page 7 of 12

Client Data		Sa	ample Data		Lab	oratory	Data Data			
Name: CDIM	I Engineering		Matrix:	Water	La	Samp	le: 1800015-01	Date Received:	05-Jan-2018	10:02
Project: 101-0	02-LRTC, Task 1		Sample Size:	0.897 L	QC	Batch	B8A0064	Date Extracted:	11-Jan-2018	11:39
Date Collected: 04-Jan	n-2018 8:40				Da	te Anal	yzed: 24-Jan-18 19:40 Column	: ZB-50		
	(pg/L)	DL	EMPC		Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	18.2				J, B	IS	13C6-Hexachlorobenzene	55.5	5 - 120	
alpha-BHC	28.4				J	IS	13C6-alpha-BHC	70.0	32 - 130	
Lindane (gamma-BHC)	33.6				J	IS	13C6-Lindane (gamma-BHC)	78.5	11 - 120	
beta-BHC	53.2					IS	13C6-beta-BHC	89.6	32 - 130	
delta-BHC		2.20				IS	13C6-delta-BHC	86.8	36 - 137	
Heptachlor		1.35				IS	13C10-Heptachlor	66.6	5 - 120	
Aldrin	ND	3.72				IS	13C12-Aldrin	59.8	5 - 120	
Oxychlordane	ND	10.1				IS	13C10-Oxychlordane	71.2	23 - 135	
cis-Heptachlor Epoxide	ND		65.4			IS	13C10-cis-Heptachlor Epoxide	75.1	27 - 137	
trans-Heptachlor Epoxide	ND		219			IS	13C10-trans-Chlordane (gamma	72.1	21 - 132	
trans-Chlordane (gamma)	58.0					IS	13C10-trans-Nonachlor	76.9	14 - 136	
trans-Nonachlor	ND	9.12				IS	13C9-Endosulfan I (alpha)	70.1	15 - 148	
cis-Chlordane (alpha)	73.8					IS	13C12-2,4'-DDE	67.9	47 - 160	
Endosulfan I (alpha)	ND	13.9				IS	13C12-4,4'-DDE	76.2	47 - 160	
2,4'-DDE	14.0				J	IS	13C12-Dieldrin	76.6	40 - 151	
4,4'-DDE	134					IS	13C12-Endrin	92.3	35 - 155	
Dieldrin	1040					IS	13C10-cis-Nonachlor	78.3	36 - 139	
Endrin	331					IS	13C9-Endosulfan II (beta)	77.2	5 - 122	
cis-Nonachlor	ND	8.74				IS	13C12-2,4'-DDD	87.1	5 - 199	
Endosulfan II (beta)	ND	14.3				IS	13C12-2,4'-DDT	84.5	5 - 199	
2,4'-DDD	105					IS	13C12-4,4'-DDD	85.0	5 - 120	
2,4'-DDT	69.9					IS	13C12-4,4'-DDT	93.7	5 - 120	
4,4'-DDD	158					IS	13C9-Endosulfan Sulfate	71.6	15 - 148	
4,4'-DDT	200					IS	13C12-Methoxychlor	93.1	5 - 120	
Endosulfan Sulfate	ND	7.19				IS	13C10-Mirex	80.2	5 - 120	
4,4'-Methoxychlor	ND	3.98				IS	13C12-Endrin Aldehyde	59.5	15 - 148	
Mirex	ND	1.06				IS	13C12-Endrin Ketone	83.9	15 - 148	
Endrin Aldehyde	ND	5.79								
Endrin Ketone	633									

DL - Sample specifc estimated detection limit

Sample ID: TS2-E-180104

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

EPA Method 1699

Work Order 1800015 Page 8 of 12

DATA QUALIFIERS & ABBREVIATIONS

В This compound was also detected in the method blank. D **Dilution** \mathbf{E} The associated compound concentration exceeded the calibration range of the instrument. Н Recovery and/or RPD was outside laboratory acceptance limits. **Chemical Interference** I J The amount detected is below the Reporting Limit/LOQ. \mathbf{M} **Estimated Maximum Possible Concentration.** (CA Region 2 projects only) **See Cover Letter** Conc. Concentration NA Not applicable ND **Not Detected** TEQ **Toxic Equivalency** \mathbf{U}

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Not Detected (specific projects only)

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CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

Work Order 1800015 Page 10 of 12

1104 Windfield El Dorado Hills			Chain of Custody Record Please send analytic results, electronic deliverables					Tracker EDF red	quired?	oY	es :	No					
						Equis 4-file EDWEDD required? x Yes □ No Specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems.											
	Client Contact	Project Manager:	Scott Bour	ne		Pro	Protocol ID/path:										COC Number;
CDIM ENGIN	EERING	Project ID:	101-002-LR	TC, Task 1		100											
45 POLK ST	REET, 3RD FLOOR	Sampled by:	MEC														
SAN FRANCI	ISCO, CA	Sample date(s):	1/4	1/18		_					1 1	- 1					Page of
(415) 498-053	35 PHONE	Analysi	s Turnaro	und Tim	e:	GI por	(669					40					SDG number:
	RTC Annual Storm Water Sampling		Standard	d		Analyte (Method ID)	(EPA 1699)	1 1 1									SDG number:
	evin Richmond Terminal, D2 Wright Avenue, Richmond, CA 94804	(Sp	ecify Days or	Hours)		lyte	sap (
Lab ID	Sample Identification	Sample Date	Sample Time	Sample Matrix	# of Cont.	Ana	Pesticides										Sample Specific Notes:
J	S2-E-190104	1/4/18	0840	W	3		X	THE STATE OF									
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Deon	ervation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4:	-UNO - F-N-OU-C- O	16.00	, , , ,	, morour (7.7.	-	+	-	4		-	-	-			
				***			1					ш.					
Special inst	tructions/QC Requirements & Comm										e use a	greed t	ipon ar	alyte II	st for El	A 1699.	
		Plea	sie La	apoilt	S	1	7	, cont	her	(
Relinquished by		Company:		Date/Time:		Rec	ceive	by: 111()	1.	_		_	Compa	any:	10		Date/Time: 1 100
Mary Co	inningha /	X CDIM		1/4/18	1225	1		Bacon	110			0	2.0	Va	3/		1/5/19 1005
Relinquished b	y:)	Company:		Date/Time:			ceive	by:					Compa	any:			Date/Time:
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Work Order 1800015



Sample Log-in Checklist

Vista Work Orde	r#:\8	10012)					_ TATSTO		
Samples Arrival:	Date/Time	1002		Init WW	ials:			cation: WR~	2	
Logged In:	Date/Time	101		Init	ials:			cation: WR^{-2}		
Delivered By:	FedEx	UPS	On Tra	ac	GSO	DHI	5	Hand Delivered	Other	
Preservation:	Ice	ン	Bli	ue Ice	е		Dry Ice None			
Temp °C: 1,7	(uncorre	cted)	Time: 100	1			71	ID.	ID 2	
Temp °C:	(correc	ted)	Probe use	ed: `	Yes□ N	NoE	in	ermometer ID:	IK-3	

				YES	NO	NA
Adequate Sample Volu	ıme Received?			1		
Holding Time Acceptal	ole?			1		
Shipping Container(s)	1	Terri				
Shipping Custody Sea				1		
Shipping Documentation	on Present?			1		
Airbill	1					
Sample Container Inta	ct?			1		
Sample Custody Seals	Intact?					1
Chain of Custody / Sar	nple Documentation Pr	resent?		1		
COC Anomaly/Sample	Acceptance Form com	npleted?			1	1
If Chlorinated or Drinkii	ng Water Samples, Acc	ceptable Pres	ervation?			1
Preservation Documen	ted: Na ₂ S ₂ O ₃	Trizma	None	Yes)No	NA
Shipping Container	Vista	Client	(Retain) Re	turn	Disp	ose

Comments:

ID.: LR - SLC

Rev No.: 0

Rev Date: 05/18/2017

Page: 1 of 1



February 21, 2018

Vista Work Order No. 1800017

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on January 05, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-002-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

Work Order 1800017 Page 1 of 12

Vista Work Order No. 1800017 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The sample was extracted and analyzed within the method hold times. The sample required re-extraction using less volume and 5X the internal standard spiking solution. The re-extraction was performed outside of the hold time.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the method acceptance criteria are listed in the table below:

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1800017-01	TS2-I-180104	EPA Method 1699	13C10-Heptachlor	Н	144

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800017-01	TS2-I-180104	04-Jan-18 08:28	05-Jan-18 10:02	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L

Vista Project: 1800017 Client Project: 101-002-LRTC, Task 1

Work Order 1800017 Page 4 of 12

ANALYTICAL RESULTS

Work Order 1800017 Page 5 of 12

Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8B0005 Lab Sample: B8B0005-BLK1

Sample Size: 0.100 L Date Extracted: 01-Feb-2018 8:36 Date Analyzed: 14-Feb-18 02:41 Column: ZB-50

Analyte C	onc. (pg/L)	DL	EMPC	Qualifiers]	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	86.9			J	IS	13C6-Hexachlorobenzene	49.9	5 - 120	
alpha-BHC	ND	156			IS	13C6-alpha-BHC	75.1	32 - 130	
Lindane (gamma-BHC)	ND	195			IS	13C6-Lindane (gamma-BHC)	84.4	11 - 120	
beta-BHC	ND	175			IS	13C6-beta-BHC	96.0	32 - 130	
delta-BHC	ND	125			IS	13C6-delta-BHC	99.3	36 - 137	
Heptachlor	ND	147			IS	13C10-Heptachlor	118	5 - 120	
Aldrin	ND	117			IS	13C12-Aldrin	114	5 - 120	
Oxychlordane	ND	367			IS	13C10-Oxychlordane	121	23 - 135	
cis-Heptachlor Epoxide	ND	239			IS	13C10-cis-Heptachlor Epoxide	122	27 - 137	
trans-Heptachlor Epoxido	e ND	677			IS	13C10-trans-Chlordane (gamma)	115	21 - 132	
trans-Chlordane (gamma) ND	265			IS	13C10-trans-Nonachlor	133	14 - 136	
trans-Nonachlor	ND	218			IS	13C9-Endosulfan I (alpha)	121	15 - 148	
cis-Chlordane (alpha)	ND	204			IS	13C12-2,4'-DDE	119	47 - 160	
Endosulfan I (alpha)	ND	411			IS	13C12-4,4'-DDE	120	47 - 160	
2,4'-DDE	ND	170			IS	13C12-Dieldrin	101	40 - 151	
4,4'-DDE	ND	199			IS	13C12-Endrin	104	35 - 155	
Dieldrin	ND	95.2			IS	13C10-cis-Nonachlor	96.6	36 - 139	
Endrin	ND	153			IS	13C9-Endosulfan II (beta)	102	5 - 122	
cis-Nonachlor	ND	144			IS	13C12-2,4'-DDD	101	5 - 199	
Endosulfan II (beta)	ND	226			IS	13C12-2,4'-DDT	91.4	5 - 199	
2,4'-DDD	ND	287			IS	13C12-4,4'-DDD	99.2	5 - 120	
2,4'-DDT	ND	466			IS	13C12-4,4'-DDT	96.5	5 - 120	
4,4'-DDD	ND	298			IS	13C9-Endosulfan Sulfate	118	15 - 148	
4,4'-DDT	ND	470			IS	13C12-Methoxychlor	88.5	5 - 120	
Endosulfan Sulfate	ND	275			IS	13C10-Mirex	87.0	5 - 120	
4,4'-Methoxychlor	ND	59.0			IS	13C12-Endrin Aldehyde	78.2	15 - 148	
Mirex	ND	42.9			IS	13C12-Endrin Ketone	100	15 - 148	
Endrin Aldehyde	ND	238							
Endrin Ketone	ND	280							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Work Order 1800017 Page 6 of 12



Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8B0005 Lab Sample: B8B0005-BS1

Sample Size: 0.100 L Date Extracted: 01-Feb-2018 8:36 Date Analyzed: 13-Feb-18 23:26 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
Hexachlorobenzene	49600	50000	99.3	50 - 120	IS	13C6-Hexachlorobenzene	64.5	5 - 120
alpha-BHC	49400	50000	98.7	50 - 120	IS	13C6-alpha-BHC	77.9	17 - 141
Lindane (gamma-BHC)	52200	50000	104	50 - 120	IS	13C6-Lindane (gamma-BHC)	81.1	5 - 124
beta-BHC	47400	50000	94.9	50 - 120	IS	13C6-beta-BHC	93.1	17 - 141
delta-BHC	46700	50000	93.4	50 - 120	IS	13C6-delta-BHC	92.3	16 - 150
Heptachlor	46700	50000	93.3	50 - 120	IS	13C10-Heptachlor	107	5 - 128
Aldrin	48200	50000	96.4	50 - 120	IS	13C12-Aldrin	98.6	5 - 126
Oxychlordane	46700	50000	93.4	50 - 120	IS	13C10-Oxychlordane	104	5 - 144
cis-Heptachlor Epoxide	51300	50000	103	50 - 120	IS	13C10-cis-Heptachlor Epoxide	106	8 - 146
trans-Heptachlor Epoxide	61600	50000	123	50 - 120	IS	13C10-trans-Chlordane (gamma)	102	15 - 144
trans-Chlordane (gamma)	52200	50000	104	50 - 120	IS	13C10-trans-Nonachlor	107	13 - 149
trans-Nonachlor	49100	50000	98.1	50 - 120	IS	13C9-Endosulfan I (alpha)	115	5 - 144
cis-Chlordane (alpha)	45800	50000	91.5	50 - 120	IS	13C12-2,4'-DDE	108	26 - 169
Endosulfan I (alpha)	47200	50000	94.4	50 - 120	IS	13C12-4,4'-DDE	107	26 - 169
2,4'-DDE	48000	50000	96.1	24 - 123	IS	13C12-Dieldrin	93.5	19 - 161
4,4'-DDE	46400	50000	92.8	50 - 120	IS	13C12-Endrin	93.1	20 - 157
Dieldrin	48700	50000	97.5	50 - 120	IS	13C10-cis-Nonachlor	92.0	17 - 154
Endrin	49800	50000	99.7	50 - 120	IS	13C9-Endosulfan II (beta)	95.4	5 - 120
cis-Nonachlor	48700	50000	97.4	50 - 120	IS	13C12-2,4'-DDD	93.1	14 - 200
Endosulfan II (beta)	48200	50000	96.3	5 - 200	IS	13C12-2,4'-DDT	85.3	14 - 200
2,4'-DDD	46900	50000	93.7	50 - 120	IS	13C12-4,4'-DDD	88.8	14 - 200
2,4'-DDT	51600	50000	103	50 - 120	IS	13C12-4,4'-DDT	87.9	13 - 200
4,4'-DDD	48400	50000	96.7	42 - 120	IS	13C9-Endosulfan Sulfate	91.4	5 - 144
4,4'-DDT	47800	50000	95.6	50 - 120	IS	13C12-Methoxychlor	86.0	8 - 200
Endosulfan Sulfate	50100	50000	100	50 - 120	IS	13C10-Mirex	88.2	5 - 138
4,4'-Methoxychlor	46900	50000	93.7	50 - 120	IS	13C12-Endrin Aldehyde	46.1	5 - 144
Mirex	46100	50000	92.3	50 - 120	IS	13C12-Endrin Ketone	92.8	5 - 144
Endrin Aldehyde	52500	50000	105	50 - 134				
Endrin Ketone	45800	50000	91.6	50 - 134				

LCL-UCL - Lower control limit - upper control limit

Work Order 1800017 Page 7 of 12

Sample ID: TS2-	I-180104							EPA Met	thod 1699
Client Data		Sample Data		Lab	oratory	Data			
Name: CDIM	I Engineering	Matrix:	Water	Lal	b Samp	le: 1800017-01	Date Received:	05-Jan-201	8 10:02
Project: 101-0	02-LRTC, Task 1	Sample Size:	0.100 L	QC	Batch	: B8B0005	Date Extracted:	01-Feb-201	8 8:36
Date Collected: 04-Jar	n-2018 8:28			Da	te Anal	yzed: 14-Feb-18 06:45 Column	: ZB-50		
Analyte Conc.	(pg/L) Di	L EMPC	Ou	 alifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	1820	L EMIC		, B	IS	13C6-Hexachlorobenzene	82.5	5 - 120	Qualifiers
alpha-BHC	ND 13	.2	J	, Б	IS	13C6-alpha-BHC	84.7	32 - 130	
Lindane (gamma-BHC)	ND 18				IS	13C6-Lindane (gamma-BHC)	93.0	11 - 120	
beta-BHC	ND 17				IS	13C6-beta-BHC	91.9	32 - 130	
delta-BHC	ND 12				IS	13C6-delta-BHC	92.7	36 - 137	
Heptachlor	ND 70				IS	13C10-Heptachlor	144	5 - 120	Н
Aldrin	ND 35				IS	13C12-Aldrin	115	5 - 120	11
Oxychlordane	ND 109				IS	13C10-Oxychlordane	110	23 - 135	
cis-Heptachlor Epoxide	ND 88				IS	13C10-cis-Heptachlor Epoxide	83.2	27 - 137	
trans-Heptachlor Epoxide	ND 250				IS	13C10-trans-Chlordane (gamma		21 - 132	
trans-Chlordane (gamma)	4060				IS	13C10-trans-Nonachlor	85.6	14 - 136	
trans-Nonachlor	ND 94	.9			IS	13C9-Endosulfan I (alpha)	91.5	15 - 148	
cis-Chlordane (alpha)	2950				IS	13C12-2,4'-DDE	73.1	47 - 160	
Endosulfan I (alpha)	ND 130	60			IS	13C12-4,4'-DDE	61.5	47 - 160	
2,4'-DDE	833			J	IS	13C12-Dieldrin	79.5	40 - 151	
4,4'-DDE	12000				IS	13C12-Endrin	65.6	35 - 155	
Dieldrin	7020				IS	13C10-cis-Nonachlor	49.8	36 - 139	
Endrin	1600			J	IS	13C9-Endosulfan II (beta)	50.6	5 - 122	
cis-Nonachlor	ND 96	4			IS	13C12-2,4'-DDD	77.4	5 - 199	
Endosulfan II (beta)	ND 162	20			IS	13C12-2,4'-DDT	67.6	5 - 199	
2,4'-DDD	5470				IS	13C12-4,4'-DDD	55.3	5 - 120	
2,4'-DDT	5750				IS	13C12-4,4'-DDT	47.6	5 - 120	
4,4'-DDD	11100				IS	13C9-Endosulfan Sulfate	30.9	15 - 148	
4,4'-DDT	22800				IS	13C12-Methoxychlor	30.5	5 - 120	
Endosulfan Sulfate	ND 304	40			IS	13C10-Mirex	28.2	5 - 120	
4,4'-Methoxychlor	ND 698	80			IS	13C12-Endrin Aldehyde	45.1	15 - 148	
Mirex	ND 38	7			IS	13C12-Endrin Ketone	33.9	15 - 148	
Endrin Aldehyde	ND 165	50							
Endrin Ketone	ND 36	10							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Page 8 of 12 Work Order 1800017

DATA QUALIFIERS & ABBREVIATIONS

В This compound was also detected in the method blank. D **Dilution** \mathbf{E} The associated compound concentration exceeded the calibration range of the instrument. Н Recovery and/or RPD was outside laboratory acceptance limits. **Chemical Interference** I J The amount detected is below the Reporting Limit/LOQ. \mathbf{M} **Estimated Maximum Possible Concentration.** (CA Region 2 projects only) **See Cover Letter** Conc. Concentration NA Not applicable ND **Not Detected** TEQ **Toxic Equivalency** \mathbf{U}

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Not Detected (specific projects only)

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CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

Work Order 1800017 Page 10 of 12

CI	nain of Custody Record	1	75		octobres.	INSTRUCTIONS FOR LAB PERSONNEL: ables GeoTracker EDF required? o Yes x No Equis 4-file EDWEDD required? x Yes no Specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems.											
		Please send analyte and the original char sab@cdimenginee mec@cdimenginee	ain-of-custody ring.com		verables												
	Client Contact	Project Manager:	Scott Bour	ne		Pro	tocol ID/pat	-	u(1) quoo	dono or pro	DIOTHO.						COC Number:
CDIM ENG	CDIM ENGINEERING Project ID: 101-002-LRT		The second secon					TI	1	T = T					T		
45 POLK S	STREET, 3RD FLOOR	Sampled by: MEC			NUMBER OF THE PROPERTY OF THE											-	
SAN FRAN	ICISCO, CA	Sample date(s):	1/1	1 . 6		-				1 1					1		Page of
(415) 498-0) 498-0535 PHONE Analysis Turnaround Tin			e:	Analyte (Method ID)	(669)									-	SDG number:	
facing the second	LRTC Annual Storm Water Sampling Levin Richmond Terminal,	Standard			te (Met	Pesticides (EPA 1699)			П								
Address:	402 Wright Avenue, Richmond, CA 94804	(Sp	ecify Days or	0.100.10		laly	cides	1 1		1							
Lab ID	Sample Identification	Sample Date	Sample Time	Sample Matrix	# of Cont.	Ā	Pesti										Sample Specific Notes:
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opeciai ii	structions/QC Requirements & Commer	Reasc	Compo	site	> (3	cont	a ner	n umic.	Please (use agr	ea upo	n anaiyte	list for E	:PA 169	9.	
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Relinquished		Company:		Date/Nime:	1000	Rec	ceived by:	Mal	WO				ompany:	VU/~		D	pate/Time:
Relinquished	l by:	Company:		Date/Time:		Rec	ceived by:					-	Company:				Date/Time:
	x = Samples released to a secured, locked	area.					0 =	Samples n	ceived fr	om a secu	red locke	d area				_	

Work Order 1800017 Page 11 of 12



Sample Log-in Checklist

Vista Work Orde	r#: {\}	500017				TATSt	1		
Samples Arrival:	Date/Time 1/5/18 1002			Initials:		Shelf/Rack: WR-2 Location: WR-2 Location: WR-2 Shelf/Rack: B-2			
Logged In:			Initials:						
Delivered By:	FedEx	UPS	On Trac	GSO	DHI	Hand Delivered	Other		
Preservation:	Ice	Blue Ice			Dry Ice	None			
Temp °C: 107	(uncorre	ected)	Time: 1004			T			
Temp °C: \ \ \ (correc		eted)	Probe use	d: Yes□ l	No	Thermometer ID: IR-3			

				YES	NO	NA
Adequate Sample Volun	ne Received?			1		
Holding Time Acceptable	1					
Shipping Container(s) In	V					
Shipping Custody Seals			1			
Shipping Documentation	Present?			1		
Airbill	1					
Sample Container Intact		1				
Sample Custody Seals I	ntact?					1
Chain of Custody / Samp	ole Documentation Pre	esent?		1		
COC Anomaly/Sample A		1	1	1		
If Chlorinated or Drinking	Water Samples, Acc	eptable Pres	ervation?			1
Preservation Documente	d: Na ₂ S ₂ O ₃	Trizma	None	Yes (No	NA
Shipping Container	Vista	Client	(Retain Re	turn	Disp	ose

Comments:

ID.: LR - SLC

Rev No.: 0

Rev Date: 05/18/2017

Page: 1 of 1



Calscience



WORK ORDER NUMBER: 18-01-0397

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

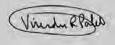
Client Project Name: LRTC Annual Storm Water Sampling / 101-

003-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260



Approved for release on 01/16/2018 by: Virendra Patel

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name:	LRTC Annual Storm Water Sampling / 101-003-LRTC, Ta	ısk 1

Work Order Number: 18-01-0397

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5	Quality Control Sample Data. 5.1 MS/MSD. 5.2 Sample Duplicate. 5.3 LCS/LCSD.	12 12 14 16
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8	Chain-of-Custody/Sample Receipt Form	21



Work Order Narrative

Work Order: 18-01-0397 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/09/18. They were assigned to Work Order 18-01-0397.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

18-01-0397



45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Sample Summary

Client: CDIM Engineering Work Order:

> LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 Project Name:

PO Number:

Date/Time 01/09/18 11:00

Received:

29 Number of

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-E-180108	18-01-0397-1	01/08/18 08:40	9	Aqueous
TS2-E-180108	18-01-0397-2	01/08/18 09:31	5	Aqueous
TS3-E-180108	18-01-0397-3	01/08/18 09:06	5	Aqueous
TS4-E-180108	18-01-0397-4	01/08/18 09:18	5	Aqueous
TSX-E-DUP-180108	18-01-0397-5	01/08/18 09:35	5	Aqueous





Detections Summary

Client: CDIM Engineering Work Order: 18-01-0397

LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

San Francisco, CA 94102-5260 Received: 01/09/18

Attn: Scott Bourne Page 1 of 2

Client SampleID						
<u>Analyte</u>	Result	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
ГS1-E-180108 (18-01-0397-1)						
HEM - SGT: Oil and Grease	1.0		1.0	mg/L	EPA 1664A	N/A
Copper	0.00153		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00335		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0719		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0389	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0596		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	2.8		1.0	mg/L	SM 2540 D	N/A
рН	7.93	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
S2-E-180108 (18-01-0397-2)						
Copper	0.00204		0.00100	mg/L	EPA 200.8	N/A
Lead	0.000811	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0568		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0160	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0217	J	0.00926*	mg/L	EPA 200.8	N/A
рН	7.42	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
S3-E-180108 (18-01-0397-3)						
Copper	0.00132		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00112		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0435		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0121	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0175	J	0.00926*	mg/L	EPA 200.8	N/A
рН	7.89	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
S4-E-180108 (18-01-0397-4)						
Copper	0.00209		0.00100	mg/L	EPA 200.8	N/A
Lead	0.000352	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0413		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0169	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0644		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	1.7		1.0	mg/L	SM 2540 D	N/A
рН	7.65	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
SX-E-DUP-180108 (18-01-0397-5)						
Copper	0.00139		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00106		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0498		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0138	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0178	J	0.00926*	mg/L	EPA 200.8	N/A
pH	7.98	BV,BU	0.01	pH units	SM 4500 H+ B	N/A

^{*} MDL is shown





Detections Summary

Client: CDIM Engineering

Scott Bourne

Work Order: 18-01-0397

Project Name:

45 Polk Street, 3rd floor

LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

San Francisco, CA 94102-5260

01/09/18

Received:

Page 2 of 2

Client SampleID

Attn:

Analyte Result **Qualifiers** <u>Units</u> **Method Extraction** <u>RL</u>

Subcontracted analyses, if any, are not included in this summary.

Page 1 of 1

I0113HEML2

mg/L



Method Blank

Analytical Report

CDIM Engineering Date Received: 01/09/18 45 Polk Street, 3rd floor Work Order: 18-01-0397 San Francisco, CA 94102-5260 Preparation: N/A Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Units:

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180108	18-01-0397-1-E	01/08/18 08:40	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2
Comment(s): - Results were evaluated t	o the MDL (DL), cond	centrations >= t	o the MDL (D	L) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
HEM - SGT: Oil and Grease	1.0		1.0	0.81	1.00		

TS2-E-180108	18-01-0397	-2-D 01/08/18 09:31	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2
Comment(s):	- Results were evaluated to the MDL (DL	_), concentrations >	= to the MDL (DI	_) but < RL (l	OQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>tualifiers</u>
HEM - SGT: Oil a	nd Grease	ND	1.0	0.81	1.00		

TS3-E-180108	18-01-039	97-3-D 01/0 09:0	98/18 Aque 96	eous N/A	01/13/18	01/13/18 I0113HEN 16:25	iL
Comment(s):	- Results were evaluated to the MDL (DL), concentrat	tions >= to the M	DL (DL) but < RL	(LOQ), if found, are	qualified with a "J" flag.	
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>	
HEM - SGT: Oil	and Grease	ND	1.0	0.81	1.00		

TS4-E-180108	18-01-0397	-4-C 01/0 09:1	08/18 Aque	eous N/A		01/13/18 I0113HEML2 6:25
Comment(s):	- Results were evaluated to the MDL (D	L), concentrat	tions >= to the MI	DL (DL) but < RL	(LOQ), if found, are qua	alified with a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
HEM - SGT: Oil	and Grease	ND	1.0	0.81	1.00	

TSX-E-DUP-18	30108	18-01-0397-5-D	01/08/18 09:35	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2
Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.								a "J" flag.
Darameter		Pagu	ı+	DI	MDI	DE		Ouglifiers

N/A

Aqueous

01/13/18

01/13/18

<u>r drameter</u>	result	IXL	IVIDE	<u>D1</u>	Qualific
HEM - SGT: Oil and Grease	ND	1.0	0.81	1.00	

N/A

					16:	25
Comment(s):	- Results were evaluated to the MDL (E	DL), concentrati	ons >= to the MDL	(DL) but < RL (LOQ),	if found, are qualif	ied with a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
HEM - SGT: O	I and Grease	ND	1.0	0.81	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

099-16-927-80



CDIM Engineering Date Received: 01/09/18 Work Order: 18-01-0397 45 Polk Street, 3rd floor San Francisco, CA 94102-5260 Preparation: N/A Method: SM 2540 D Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-003-

LRŤC, Task 1

Solids, Total Suspended

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180108	18-01-0397-1-I	01/08/18 08:40	Aqueous	N/A	01/10/18	01/10/18 21:00	I0110TSSL5
Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.							
<u>Parameter</u>	<u>Resu</u>	<u>lt</u> <u>!</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Solids, Total Suspended	2.8		1.0	0.83	1.00		

TS2-E-180108	18-01-0397-2-E	01/08/18 09:31	Aqueous	N/A	01/10/18	01/10/18 21:00	I0110TSSL5
Comment(s): - Results were evaluated to t	he MDL (DL), cond	centrations >= t	o the MDL (DL	but < RL (LC	Q), if found, are	qualified with a "	'J" flag.
<u>Parameter</u>	<u>Resu</u>	<u>lt </u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qı</u>	<u>ualifiers</u>
Solids, Total Suspended	ND	•	1.0	0.83	1.00		

TS3-E-180108	18-01-0397	'-3-E 01/08/ 09:06	18 Aqueous	N/A	01/10/18	01/10/18 21:00	I0110TSSL5
Comment(s):	- Results were evaluated to the MDL (D	L), concentratio	ns >= to the MDL (DI) but < RL (LC	DQ), if found, are	qualified with a "J	" flag.
<u>Parameter</u>		Result	<u>RL</u>	MDL	<u>DF</u>	<u>Qua</u>	alifiers
Solids, Total Su	spended	ND	1.0	0.83	1.00		

TS4-E-180108	18-01-0397	-4-E 01/0 09:	08/18 Aqueou: 18	s N/A	01/10/18	01/10/18 I0110TSSL5 21:00
Comment(s):	- Results were evaluated to the MDL (D	L), concentra	tions >= to the MDL ((DL) but < RL (L	OQ), if found, are o	qualified with a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Solids, Total Sus	spended	1.7	1.0	0.83	1.00	

TSX-E-DUP-18	0108	18-01-0397-5-E	01/08/18 09:35	Aqueous	N/A	01/10/18	01/10/18 21:00	I0110TSSL5
Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.								
Parameter		Resu	lt	RL	MDL	DF		Qualifiers

Method Blank 099-09-010-8788 N/A Aqueous N/A 01/10/18		
Method Blank 099-09-010-0700 N/A Aqueous N/A 01/10/10	3 01/10/18 21:00	I0110TSSL5

1.0

0.83

1.00

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag. **Parameter** Result <u>RL</u> **MDL** <u>DF</u> Qualifiers Solids, Total Suspended ND 1.0 0.83 1.00

ND

RL: Reporting Limit. MDL: Method Detection Limit. DF: Dilution Factor.



 CDIM Engineering
 Date Received:
 01/09/18

 45 Polk Street, 3rd floor
 Work Order:
 18-01-0397

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 SM 4500 H+ B

 Units:
 pH units

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Page 1 of 1

Client Sample No	umber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180108		18-01-0397-1-A	01/08/18 08:40	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	nent(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.							
<u>Parameter</u>		<u>Resul</u>	<u>t </u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
рН		7.93	().01	0.01	1.00	В	V,BU

DL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flat	" flag.
Result RL MDL DF Qualifie	alifiers
7.42 0.01 0.01 1.00 BV,BU	BU
Result RL MDL DF Qualifie	alifie

TS3-E-180108	18-01-0397-3-A	01/08/18 09:06	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >= to	o the MDL (DL	.) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt F</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	Q	<u>ualifiers</u>
рН	7.89	(0.01	0.01	1.00	B	V,BU

TS4-E-180108	18-01-0397-4-A	01/08/18 09:18	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	- Results were evaluated to the MDL (DL), cor	ncentrations >=	to the MDL (DL) but < RL (LOQ), if found, are	qualified with a ".	l" flag.
<u>Parameter</u>	Res	<u>ult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
pН	7.65	5	0.01	0.01	1.00	BV	,BU

TSX-E-DUP-18	0108 18	3-01-0397-5-A	01/08/18 09:35	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	- Results were evaluated to the	e MDL (DL), conce	entrations >= t	o the MDL (DL) but < RL (I	OQ), if found, are	e qualified with	a "J" flag.
<u>Parameter</u>		<u>Result</u>		<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qualifiers</u>
рН		7.98		0.01	0.01	1.00		BV,BU



 CDIM Engineering
 Date Received:
 01/09/18

 45 Polk Street, 3rd floor
 Work Order:
 18-01-0397

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 EPA 200.8

Units:

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

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mg/L

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180108		18-01-0397-1-B	01/08/18 08:40	Aqueous	ICP/MS 03	01/12/18	01/12/18 20:45	180112LA1
Comment(s):	- Results were evaluated to	o the MDL (DL), cond	centrations >=	to the MDL (DL) but < RL (LOC	(a), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.001	53	0.00100	0.000140	1.00		
Lead		0.003	335	0.00100	0.0000898	1.00		
Zinc		0.071	9	0.00500	0.000479	1.00		
Aluminum		0.038	39	0.0500	0.00331	1.00	J	
Iron		0.059	96	0.0500	0.00926	1.00		

TS2-E-180108	18-01-0397-2-	B 01/08/18 09:31	Aqueous	ICP/MS 03	01/12/18	01/12/18 20:47	180112LA1
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >	= to the MDL (DL	_) but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u> </u>	<u>tesult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Q	<u>ualifiers</u>
Copper	0	.00204	0.00100	0.000140	1.00		
Lead	0	.000811	0.00100	0.0000898	1.00	J	
Zinc	0	.0568	0.00500	0.000479	1.00		
Aluminum	0	.0160	0.0500	0.00331	1.00	J	
Iron	0	.0217	0.0500	0.00926	1.00	J	

TS3-E-180108	18-01-0397-3-B	01/08/18 09:06	Aqueous	ICP/MS 03	01/12/18	01/12/18 20:50	180112LA1
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >=	= to the MDL (DL	but < RL (LOC), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper	0.00	132	0.00100	0.000140	1.00		
Lead	0.00	112	0.00100	0.0000898	1.00		
Zinc	0.04	35	0.00500	0.000479	1.00		
Aluminum	0.01	21	0.0500	0.00331	1.00	J	
Iron	0.01	75	0.0500	0.00926	1.00	J	



CDIM Engineering Date Received: 01/09/18
45 Polk Street, 3rd floor Work Order: 18-01-0397
San Francisco, CA 94102-5260 Preparation: N/A

Preparation: N/A Method: EPA 200.8

Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

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Client Sample Number	Lab Sample Number		Date/Time Matrix Instr Collected		Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-E-180108	18-01-0397	-4-B 01/08/ 09:18	18 Aqueous	s ICP/MS 03	01/12/18	01/12/18 21:28	180112LA1
Comment(s): - Res	sults were evaluated to the MDL (DI	_), concentration	ns >= to the MDL (DL) but < RL (LOQ), if found, are	qualified with a '	"J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>
Copper		0.00209	0.00100	0.000140	1.00		
Lead		0.000352	0.00100	0.0000898	1.00	J	
Zinc		0.0413	0.00500	0.000479	1.00		
Aluminum		0.0169	0.0500	0.00331	1.00	J	
Iron		0.0644	0.0500	0.00926	1.00		

TSX-E-DUP-180108	18-01-0397-5-B	01/08/18 A 09:35	queous ICP/MS 03	3 01/12/18	01/12/18 21:31	180112LA1
Comment(s): - Results were eval	luated to the MDL (DL), conc	entrations >= to the	MDL (DL) but < RL (I	LOQ), if found, are	e qualified with a "J"	flag.
<u>Parameter</u>	<u>Resul</u>	t RL	<u>MDL</u>	<u>DF</u>	<u>Qua</u>	<u>lifiers</u>
Copper	0.001	39 0.00	0.0001	40 1.00		
Lead	0.001	0.00	0.0000	1.00		
Zinc	0.0498	8 0.005	0.0004	1.00		
Aluminum	0.013	8 0.050	0.0033	1.00	J	
Iron	0.0178	8 0.050	0.0092	26 1.00	J	

Method Blank	099-16-094-2167	N/A	Aqueous I	CP/MS 03	01/12/18	01/12/18 17:44	180112LA1
Comment(s):	- Results were evaluated to the MDL (DL), conc	entrations >= to t	he MDL (DL)	but < RL (LOQ)), if found, are o	ualified with a "	J" flag.
<u>Parameter</u>	Resul	<u>t RL</u>	:	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>ıalifiers</u>
Copper	ND	0.0	00100	0.000140	1.00		
Lead	ND	0.0	0100	0.0000898	1.00		
Zinc	ND	0.0	00500	0.000479	1.00		
Aluminum	ND	0.0	500	0.00331	1.00		
Iron	ND	0.0	500	0.00926	1.00		

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Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/09/18 45 Polk Street, 3rd floor Work Order: 18-01-0397 San Francisco, CA 94102-5260 Preparation: N/A

> Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Quality Control Sample ID	Туре		Matrix	Inst	ument	Date Prepared	Date Ana	lyzed	MS/MSD Bat	ch Number
TS1-E-180108	Sample		Aqueou	s N/A		01/13/18	01/13/18	16:25	10113HEMS2	2
TS1-E-180108	Matrix Spike		Aqueou	s N/A		01/13/18	01/13/18	16:25	10113HEMS2	2
TS1-E-180108	Matrix Spike	Duplicate	Aqueou	s N/A		01/13/18	01/13/18	16:25	10113HEMS2	2
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	1.000	20.00	16.30	76	16.50	78	64-132	1	0-34	



01/09/18

18-01-0397

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Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received:
45 Polk Street, 3rd floor Work Order:
San Francisco, CA 94102-5260 Preparation:

Preparation: N/A Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре		Matrix	Instr	ument	Date Prepared	Date Ana	lyzed	MS/MSD Ba	tch Number
TS1-E-180108	Sample		Aqueous	ICP/	MS 03	01/12/18	01/12/18	20:45	180112SA1	
TS1-E-180108	Matrix Spike		Aqueous	ICP/	MS 03	01/12/18	01/12/18	20:40	180112SA1	
TS1-E-180108	Matrix Spike	Duplicate	Aqueous	ICP/	MS 03	01/12/18	01/12/18	20:42	180112SA1	
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	0.001528	0.1000	0.09382	92	0.09911	98	80-120	5	0-20	
Lead	0.003346	0.1000	0.1008	97	0.1071	104	80-120	6	0-20	
Zinc	0.07190	0.1000	0.1580	86	0.1433	71	80-120	10	0-20	3
Aluminum	ND	0.1000	0.1236	124	0.1273	127	80-120	3	0-20	3
Iron	0.05962	5.100	5.000	97	5.211	101	80-120	4	0-20	





Quality Control - Sample Duplicate

CDIM Engineering Date Received: 01/09/18
45 Polk Street, 3rd floor Work Order: 18-01-0397
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

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Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-0339-2	Sample	Aqueous	N/A	01/10/18 00:00	01/10/18 21:00	I0110TSSD9
18-01-0339-2	Sample Duplicate	Aqueous	N/A	01/10/18 00:00	01/10/18 21:00	I0110TSSD9
<u>Parameter</u>		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	Qualifiers
Solids, Total Suspended		978.0	956.0	2	0-20	





Quality Control - Sample Duplicate

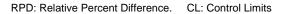
CDIM Engineering Date Received: 01/09/18
45 Polk Street, 3rd floor Work Order: 18-01-0397
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

TC Annual Storm Water Sampling / 101-003- Page 2 of 2

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
TS1-E-180108	Sample	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
TS1-E-180108	Sample Duplicate	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Parameter		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	<u>Qualifiers</u>
рН		7.930	7.800	2	0-25	



01/09/18

N/A



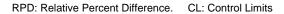
Quality Control - LCS/LCSD

CDIM Engineering Date Received: 45 Polk Street, 3rd floor Work Order: 18-01-0397 San Francisco, CA 94102-5260 Preparation:

> Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 $\,$ Page 1 of 3

Quality Control Sample ID	Туре	Mat	trix	Instrument	Date Pre	pared Date	e Analyzed	LCS/LCSD Ba	atch Number
099-16-927-80	LCS	Aqı	ueous	N/A	01/13/18	01/1	13/18 16:25	I0113HEML2	
099-16-927-80	LCSD	Aqu	ueous	N/A	01/13/18	01/1	13/18 16:25	I0113HEML2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	17.90	90	17.80	89	64-132	1	0-34	



01/09/18

18-01-0397



Quality Control - LCS/LCSD

CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Date Received:

Work Order:

Preparation:

Preparation: N/A Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Page 2 of 3

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	atch Number
099-09-010-8788	LCS	Aqı	leous	N/A	01/10/18	01/1	0/18 21:00	10110TSSL5	
099-09-010-8788	LCSD	Aqı	ueous	N/A	01/10/18	01/1	0/18 21:00	10110TSSL5	
Parameter	Spike Added	LCS Conc.	<u>LCS</u> %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	<u>Qualifiers</u>
Solids, Total Suspended	100.0	91.00	91	93.00	93	80-120	2	0-20	



Quality Control - LCS

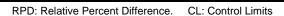
CDIM Engineering Date Received: 01/09/18
45 Polk Street, 3rd floor Work Order: 18-01-0397
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

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Quality Control Sample ID	Туре	Matrix	Instrument [Date Prepared	Date Analyzed	LCS Batch Number
099-16-094-2167	LCS	Aqueous	ICP/MS 03	01/12/18	01/12/18 17:46	180112LA1
<u>Parameter</u>		Spike Added	Conc. Recovere	ed LCS %Re	ec. %Rec.	CL Qualifiers
Copper		0.1000	0.09996	100	80-120)
Lead		0.1000	0.1036	104	80-120)
Zinc		0.1000	0.09334	93	80-120)
Aluminum		0.1000	0.1000	100	80-120)
Iron		5.100	5.389	106	80-120)





Sample Analysis Summary Report

Work Order: 18-01-0397				Page 1 of 1
Method	Extraction	Chemist ID	<u>Instrument</u>	Analytical Location
EPA 1664A	N/A	784	N/A	1
EPA 200.8	N/A	598	ICP/MS 03	1
SM 2540 D	N/A	1136	N/A	1
SM 4500 H+ B	N/A	1086	PH 1	1



Glossary of Terms and Qualifiers

Work Order: 18-01-0397 Page 1 of 1

Qualifiers	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without furthe clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
V	OV Decrease and the DDD and of secure

- Χ % Recovery and/or RPD out-of-range. Ζ
 - Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

	18-01-0397	COC Number:			Page of		SDG number:			Sample Specific Notes:	MS/MSD (collect triple sample volume for metals [3 bottles] and double for O&G 14 bottles).									-	the metals listed above.	Company: Date/Time: Da	Company: Date/Time:	Company: Date/Time: 1 70 100	
INSTRUCTIONS FOR LAB PERSONNEL:	GeoTracker EDF required? o Yes x No Equis 4-file EDWEDD required? x Yes \(\text{No.} \) No Specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scens. Call immediately with any questions or problems.	Protocol ID/path:	 	H-T	SWS) sbi 664A) I Sol PA 11	. HB. HGG HGG HGG HGG HGG HGG HGG HGG HGG HG	iuspei Srease Setals	MAS) Hq S Essot S Osial & C S Aq3)	××××	× × × ×	× × ×	× × ×	X X X X				Q:-	1 1 1,3 1,4 1,4 1 1 1 1 1 1	Level II Report. Report with reporting limit and method detection limit. Analyze and report only the metals listed above.	Reference Distriction of Conference of Confe	Received by: Con	Received by: NHH Con	= Samples received from a secured, locked area
-	Please send analytic results, electronic deliverables and the original chain-of-custody form to: sab@cdimengineering.com mec@cdimengineering.com	Project Manager: Scott Bourne	Project ID: 101-002-LRTC, Task 1	Sampled by: (2/MEC	Sample date(s): ('9) 8	sis Turnarou		Standard	(Specify Days or Hours)	Sample Date Time Matrix Cont.	0	6931 5	9060	0918 5	V 0935 5				Field Filtered (X):			Company: Date/Time: 1335		Company: Date/Time:	area.
Chain of Custody Record	CalScience Environmental Lab 5063 Commercial Circle, Suite H Concord, CA 94520 Phone: 925-689-9022	Client Contact	CDIM ENGINEERING	45 POLK STREET, 3RD FLOOR	SAN FRANCISCO, CA	(415) 498-0535 PHONE		Job Name: LRTC Annual Storm Water Sampling	Address: 402 Wright Avenue, Richmond, CA 94804	Lab iD Sample Identification	TS1-E-	2 TS2-E- <u>19010名</u>	TS3-E-	' TS4-E-	5 TSX-E-DUP1%⊖\03	TO THE PROPERTY OF THE PROPERT				Preservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4=HNO ₃ ; 5=NaOH; 6= Other	Special Instructions/QC Requirements & Comments:	Relinquished by:	Respectished to 150 of the contract of the con	Relinguaned by:	x = Samples released to a secured, locked area.







Ship From CAL SCIENCE- CONCORD ALAN KEMP 5063 COMMERCIAL CIRCLE

#H CONCORD, CA 94520

Ship To CEL SAMPLE RECEIVING 7440 LINCOLN WAY GARDEN GROVE, CA 92841

COD: \$0.00 Weight: 0 lb(s) Reference: CDIM **Delivery Instructions:**

Signature Type: STANDARD

Tracking #: 539012918



ORC

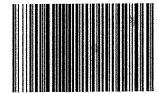


NPS

800-322-5555 www.gso.com

GARDEN GROVE

D92845A



Print Date: 1/8/2018 2:15 PM

Package 1 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.





WORK ORDER NUMBER: 18-01-6397

SAMPLE RECEIPT CHECKLIST c	OOLER	1	of <u> </u>
CLIENT: CDIM DATE	E: <u>01 /</u>	091	2018
TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue) Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): 2.1 °C (w/ CF): 2-3 °C; □ Sample(s) outside temperature criteria (PM/APM contacted by:)	□ Blank	0	Sample
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling ☐ Sample(s) received at ambient temperature; placed on ice for transport by courier Ambient Temperature: ☐ Air ☐ Filter	Checked	l by: _	15
CUSTODY SEAL: Cooler Present and Intact Present but Not Intact Not Present N/A Sample(s) Present and Intact Present but Not Intact Not Present N/A	Checked Checked		
SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples			
, , ,		Ø	
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC			
Sample container label(s) consistent with COC			
Sample container(s) intact and in good condition	_		
Proper containers for analyses requested			
Sufficient volume/mass for analyses requested			
Samples received within holding time			Wh.
Aqueous samples for certain analyses received within 15-minute holding time			0098_
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	-		·
Proper preservation chemical(s) noted on COC and/or sample container			
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			_
Acid/base preserved samples - pH within acceptable range			
Container(s) for certain analysis free of headspace	. 🗆		
□ Volatile Organics □ Dissolved Gases (RSK-175) □ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation			Ø
CONTAINER TYPE: (Trip Blank Lot Number			
Aqueous: □ VOA □ VOAh □ VOAna₂ □ 100PJ □ 100PJna₂ □ 125AGB □ 125AGBh □ 125AGBp ☑ 125AGBp ☑ 125PPB ☑ 125AGBb □ 125AGBb ☑ 125AGBp ☑ 125A	GJ s (pH2)) 🗆 50 —	00PB
Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ Other Matrix (): ☐			***************************************
Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Res	ealable Ba	9	
Preservative: $\mathbf{b} = \text{buffered}$, $\mathbf{f} = \text{filtered}$, $\mathbf{h} = \text{HCI}$, $\mathbf{n} = \text{HNO}_3$, $\mathbf{na} = \text{NaOH}$, $\mathbf{na}_2 = \text{Na}_2\text{S}_2\text{O}_3$, $\mathbf{p} = \text{H}_3\text{PO}_4$, Labelet	d/Checked	l by: _	1050
$\mathbf{s} = H_2SO_4$, $\mathbf{u} = \text{ultra-pure}$, $\mathbf{x} = \text{Na}_2SO_3 + \text{NaHSO}_4$. H_2O , $\mathbf{znna} = \text{Zn} (\text{CH}_3CO_2)_2 + \text{NaOH}$	Reviewed		



Calscience



WORK ORDER NUMBER: 18-01-0396

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

Client Project Name: LRTC Annual Storm Water Sampling / 101-

003-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Vinda Polis

Approved for release on 01/16/2018 by:

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name:	LRTC Annual Storm Water Sampling / 101-003-LRTC, Task
Work Order Number:	18-01-0396

to Contents



Work Order Narrative

Work Order: 18-01-0396 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/09/18. They were assigned to Work Order 18-01-0396.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.





Sample Summary

Client: CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Work Order:

18-01-0396

LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 Project Name:

20

PO Number:

Date/Time

01/09/18 11:00 Received:

Number of

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-I-180108	18-01-0396-1	01/08/18 08:34	5	Aqueous
TS2-I-180108	18-01-0396-2	01/08/18 09:44	5	Aqueous
TS3-I-180108	18-01-0396-3	01/08/18 08:59	5	Aqueous
TS4-I-180108	18-01-0396-4	01/08/18 09:20	5	Aqueous



Detections Summary

Client: CDIM Engineering Work Order: 18-01-0396

LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

San Francisco, CA 94102-5260 Received: 01/09/18

Attn: Scott Bourne Page 1 of 2

Client SampleID						
<u>Analyte</u>	Result	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
TS1-I-180108 (18-01-0396-1)						
HEM - SGT: Oil and Grease	8.6		1.0	mg/L	EPA 1664A	N/A
Copper	0.0444		0.0100	mg/L	EPA 200.8	N/A
Lead	0.190		0.0100	mg/L	EPA 200.8	N/A
Zinc	0.469		0.0500	mg/L	EPA 200.8	N/A
Aluminum	5.54		0.500	mg/L	EPA 200.8	N/A
Iron	10.4		0.500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	2180		10.0	mg/L	SM 2540 D	N/A
рН	7.82	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS2-I-180108 (18-01-0396-2)						
HEM - SGT: Oil and Grease	1.6		1.0	mg/L	EPA 1664A	N/A
Copper	0.0234		0.0100	mg/L	EPA 200.8	N/A
Lead	0.0727		0.0100	mg/L	EPA 200.8	N/A
Zinc	0.271		0.0500	mg/L	EPA 200.8	N/A
Aluminum	0.767		0.500	mg/L	EPA 200.8	N/A
Iron	2.55		0.500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	172		1.00	mg/L	SM 2540 D	N/A
рН	7.31	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS3-I-180108 (18-01-0396-3)						
HEM - SGT: Oil and Grease	1.1		1.0	mg/L	EPA 1664A	N/A
Copper	0.00716		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0420		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.100		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.301		0.0500	mg/L	EPA 200.8	N/A
Iron	0.621		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	16		1.0	mg/L	SM 2540 D	N/A
рН	7.64	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS4-I-180108 (18-01-0396-4)						
HEM - SGT: Oil and Grease	0.83	J	0.81*	mg/L	EPA 1664A	N/A
Copper	0.00371		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0120		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0513		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.236		0.0500	mg/L	EPA 200.8	N/A
Iron	0.262		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	8.4		1.0	mg/L	SM 2540 D	N/A
рН	7.61	BV,BU	0.01	pH units	SM 4500 H+ B	N/A

^{*} MDL is shown



Detections Summary

Client: CDIM Engineering

Work Order:

18-01-0396

45 Polk Street, 3rd floor

Project Name:

LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Received:

01/09/18

Attn: Scott Bourne Page 2 of 2

Client SampleID

Analyte Result **Qualifiers** <u>RL</u> **Units Method Extraction**

Subcontracted analyses, if any, are not included in this summary.

San Francisco, CA 94102-5260



Page 1 of 1



Analytical Report

CDIM Engineering Date Received: 01/09/18
45 Polk Street, 3rd floor Work Order: 18-01-0396

San Francisco, CA 94102-5260 Preparation: N/A
Method: EPA 1664A

Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-003-

LRŤC, Task 1

Client Sample N	umber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID		
TS1-I-180108		18-01-0396-1-D	01/08/18 08:34	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2		
Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.										

 Parameter
 Result
 RL
 MDL
 DF
 Qualifiers

 HEM - SGT: Oil and Grease
 8.6
 1.0
 0.81
 1.00

TS2-I-180108	18-01-0396-2-D	01/08/18 09:44	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >=	to the MDL (DL) but < RL (L	OQ), if found, are	qualified with a "J	" flag.
<u>Parameter</u>	Resu	<u>ult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qua	alifiers

 Parameter
 Result
 RL
 MDL
 DF

 HEM - SGT: Oil and Grease
 1.6
 1.0
 0.81
 1.00

TS3-I-180108	18-01-0396-3-D	01/08/18 08:59	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >=	to the MDL (DI	L) but < RL (LOQ), if found, are	qualified with a	ı "J" flag.
Darameter	Post	ılt	DI	MDI	DE	(Qualifiere

ParameterResultRLMDLDFQualifiersHEM - SGT: Oil and Grease1.11.00.811.00

TS4-I-180108	18-01-0396-4-D	01/08/18 09:20	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >	= to the MDL (DL) but < RL (L	OQ), if found, are	qualified with a	a "J" flag.
Parameter	Resi	ılt	RI	MDI	DF	(Qualifiers

Method Blank	099-16-927-80	N/A	Aqueous	N/A	01/13/18	01/13/18 16:25	I0113HEML2
HEM - SGT: Oil and Grease	0.83		1.0	0.81	1.00		J
		-					

Comment(s):	- Results were evaluated to the MDL (DL), concentrati	ons >= to the MDL	(DL) but < RL (LOQ)	, if found, are qualif	ied with a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
HEM - SGT: Oi	I and Grease	ND	1.0	0.81	1.00	





CDIM Engineering Date Received: 01/09/18
45 Polk Street, 3rd floor Work Order: 18-01-0396

San Francisco, CA 94102-5260 Preparation: N/A
Method: SM 2540 D

Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180108	18-01-0396-1-E	01/08/18 08:34	Aqueous	N/A	01/10/18	01/10/18 19:00	I0110TSSL4
Comment(s): - Results were evaluated to	the MDL (DL), cond	centrations >= t	o the MDL (DI	but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u>Resu</u>	<u>lt</u> <u>l</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Solids, Total Suspended	2180		10.0	0.829	1.00		

TS2-I-180108	18-01-039	6-2-E 01/0 09:	08/18 Aqueous 44	s N/A	01/10/18	01/10/18 IO 19:00	0110TSSL4
Comment(s):	- Results were evaluated to the MDL (D	L), concentra	tions >= to the MDL (DL) but < RL (LC	Q), if found, are o	qualified with a "J"	flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Quali</u>	<u>fiers</u>
Solids, Total Su	spended	172	1.00	0.829	1.00		

TS3-I-180108	18-01-0396-	3-E 01/08/18 08:59	Aqueous	N/A	01/10/18	01/10/18 19:00	I0110TSSL4
Comment(s):	- Results were evaluated to the MDL (DL), concentrations	>= to the MDL (DI	_) but < RL (L	OQ), if found, are	qualified with	a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qualifiers</u>
Solids, Total Su	spended	16	1.0	0.83	1.00		

TS4-I-180108	18-01-0396	6-4-E 01/08/18 09:20	Aqueous	N/A	01/10/18	01/10/18 19:00	I0110TSSL4
Comment(s):	- Results were evaluated to the MDL (D	L), concentrations	>= to the MDL (DI	L) but < RL (L	OQ), if found, are	qualified with a "J	" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qua	<u>alifiers</u>
Solids, Total Su	spended	8.4	1.0	0.83	1.00		

Method Blank	099-09-0	10-8791	N/A	Aqueous	N/A	01/10/18	01/10/18 19:00	I0110TSSL4
Comment(s):	- Results were evaluated to the MDL	(DL), conc	entrations >=	to the MDL (DL) but < RL	(LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resul	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
Solids, Total Sus	spended	ND		1.0	0.83	1.00		



Page 1 of 1



Analytical Report

CDIM Engineering Date Received: 01/09/18 45 Polk Street, 3rd floor Work Order: 18-01-0396

N/A San Francisco, CA 94102-5260 Preparation: Method: SM 4500 H+ B

Units: pH units

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Client Sample N	Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180108		18-01-0396-1-A	01/08/18 08:34	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >= t	o the MDL (DI	_) but < RL (LO	Q), if found, are	qualified with	a "J" flag.
<u>Parameter</u>		Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qualifiers</u>
На		7.82		0.01	0.01	1.00		BV.BU

TS2-I-180108	18-01-0396-2-A	01/08/18 09:44	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >=	to the MDL (DL	_) but < RL (L	OQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
рН	7.31		0.01	0.01	1.00	В	V,BU

TS3-I-180108	18-01-0396-3-A	01/08/18 08:59	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >	= to the MDL (DL) but < RL (L0	OQ), if found, are	qualified with	a "J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qualifiers</u>
рН	7.64		0.01	0.01	1.00		BV,BU

TS4-I-180108	18-0		01/08/18 09:20	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Comment(s):	- Results were evaluated to the I	MDL (DL), conce	entrations >= to	the MDL (DL) but < RL (LOQ), if found, are q	ualified with a ".	J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	.	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
рН		7.61	0.0)1	0.01	1.00	BV	,BU

Page 1 of 2



TS3-I-180108

Analytical Report

Date Received: **CDIM Engineering** 01/09/18 45 Polk Street, 3rd floor Work Order: 18-01-0396

San Francisco, CA 94102-5260 Preparation: N/A Method: EPA 200.8

Units: mg/L

01/12/18

01/12/18

180111LA2

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180108		18-01-0396-1-B	01/08/18 08:34	Aqueous	ICP/MS 03	01/12/18	01/12/18 20:29	180111LA2
Comment(s):	- Results were evaluated to	o the MDL (DL), cond	centrations >= to	o the MDL (DL	_) but < RL (LOC	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resu</u>	<u>lt</u> <u>F</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.044	4 (0.0100	0.00140	10.0		
Lead		0.190) (0.0100	0.000898	10.0		
Zinc		0.469) (0.0500	0.00479	10.0		
Aluminum		5.54	(0.500	0.0331	10.0		
Iron		10.4	(0.500	0.0926	10.0		

TS2-I-180108	18-01-0396-2-B	01/08/18 09:44	Aqueous	ICP/MS 03	01/12/18	01/12/18 20:32	180111LA2
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >=	to the MDL (DL) but < RL (LOQ), if found, are o	qualified with a '	'J" flag.
<u>Parameter</u>	Resi	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>
Copper	0.02	34	0.0100	0.00140	10.0		
Lead	0.07	27	0.0100	0.000898	10.0		
Zinc	0.27	1	0.0500	0.00479	10.0		
Aluminum	0.76	7	0.500	0.0331	10.0		
Iron	2.55		0.500	0.0926	10.0		

		08:59				20:35
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >=	to the MDL (DL)	but < RL (LOQ),	if found, are q	ualified with a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Copper		0.00716	0.00100	0.000140	1.00	
Lead		0.0420	0.00100	0.0000898	1.00	
Zinc		0.100	0.00500	0.000479	1.00	
Aluminum		0.301	0.0500	0.00331	1.00	
Iron		0.621	0.0500	0.00926	1.00	

Aqueous ICP/MS 03

01/08/18

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

18-01-0396-3-B

Page 2 of 2



Analytical Report

CDIM Engineering Date Received: 01/09/18 45 Polk Street, 3rd floor Work Order: 18-01-0396

N/A San Francisco, CA 94102-5260 Preparation: Method: EPA 200.8

> Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Client Sample Number		Lab Sample Date/Time Number Collected		Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-I-180108		18-01-0396-4-B	01/08/18 09:20	Aqueous	ICP/MS 03	01/12/18	01/12/18 20:37	180111LA2
Comment(s):	- Results were evaluated t	ults were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qu						"J" flag.
<u>Parameter</u>		Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.003	371	0.00100	0.000140	1.00		
Lead		0.012	20	0.00100	0.0000898	1.00		
Zinc		0.05	13	0.00500	0.000479	1.00		
Aluminum		0.23	6	0.0500	0.00331	1.00		
Iron		0.26	2	0.0500	0.00926	1.00		

Method Blank	099-16-094-2157	N/A	Aqueous	ICP/MS 03	01/11/18	01/11/18 19:50	180111LA2
Comment(s):	- Results were evaluated to the MDL (DL), conc	entrations	>= to the MDL (DL	.) but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resul	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper	ND		0.00100	0.000140	1.00		
Lead	ND		0.00100	0.0000898	1.00		
Zinc	ND		0.00500	0.000479	1.00		
Aluminum	ND		0.0500	0.00331	1.00		
Iron	ND		0.0500	0.00926	1.00		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.





Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/09/18 45 Polk Street, 3rd floor Work Order: 18-01-0396

N/A San Francisco, CA 94102-5260 Preparation: Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 $\,$ Page 1 of 2

Quality Control Sample ID	Туре	Matrix	Inst	ument	Date Prepared	Date Anal	lyzed	MS/MSD Bat	tch Number
18-01-0397-1	Sample	Aqueo	ous N/A		01/13/18	01/13/18	16:25	10113HEMS2	2
18-01-0397-1	Matrix Spike	Aqueo	ous N/A		01/13/18	01/13/18	16:25	10113HEMS2	2
18-01-0397-1	Matrix Spike Dup	licate Aqueo	ous N/A		01/13/18	01/13/18	16:25	10113HEMS2	2
Parameter		oike MS dded Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	1.000 20	.00 16.30	76	16.50	78	64-132	1	0-34	







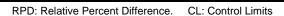
Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/09/18 Work Order: 18-01-0396 45 Polk Street, 3rd floor

Preparation: San Francisco, CA 94102-5260 TR Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 Page 2 of 2

Quality Control Sample ID	Type		Matrix	Ins	trument	Date Prepared	Date Ana	lyzed	MS/MSD Ba	tch Number
18-01-0496-2	Sample		Aqueous	s ICI	P/MS 03	01/11/18	01/11/18	21:18	180111SA2	A
18-01-0496-2	Matrix Spike		Aqueous	s ICF	P/MS 03	01/11/18	01/11/18	20:38	180111SA2	A
18-01-0496-2	Matrix Spike	Duplicate	Aqueous	s ICF	P/MS 03	01/11/18	01/11/18	21:16	180111SA2	A
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	0.01530	0.1000	0.1201	105	0.1205	105	80-120	0	0-20	
Lead	0.007794	0.1000	0.09691	89	0.09752	90	80-120	1	0-20	
Zinc	0.1196	0.1000	0.2452	126	0.2466	127	80-120	1	0-20	3
Aluminum	0.6000	0.1000	0.7304	4X	0.7594	4X	80-120	4X	0-20	Q
Iron	0.3487	5.100	5.613	103	5.637	104	80-120	0	0-20	







Quality Control - Sample Duplicate

CDIM Engineering Date Received: 01/09/18 45 Polk Street, 3rd floor Work Order: 18-01-0396 Preparation: N/A San Francisco, CA 94102-5260

> Method: SM 2540 D

> > Page 1 of 2

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-0391-1	Sample	Aqueous	N/A	01/10/18 00:00	01/10/18 19:00	I0110TSSD7
18-01-0391-1	Sample Duplicate	Aqueous	N/A	01/10/18 00:00	01/10/18 19:00	I0110TSSD7
<u>Parameter</u>		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	Qualifiers
Solids, Total Suspended		287.5	270.0	6	0-20	







Quality Control - Sample Duplicate

CDIM Engineering Date Received: 01/09/18 Work Order: 18-01-0396 45 Polk Street, 3rd floor

Preparation: N/A San Francisco, CA 94102-5260 Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 $\,$ Page 2 of 2

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-0397-1	Sample	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
18-01-0397-1	Sample Duplicate	Aqueous	PH 1	N/A	01/09/18 17:00	I0109PHD1
Parameter		Sample Conc.	DUP Conc.	RPD	RPD CL	<u>Qualifiers</u>
рН		7.930	7.800	2	0-25	







Quality Control - LCS/LCSD

CDIM Engineering Date Received: 01/09/18 18-01-0396 45 Polk Street, 3rd floor Work Order:

Preparation: N/A San Francisco, CA 94102-5260 Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 Page 1 of 3

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	e Analyzed	LCS/LCSD Ba	atch Number
099-16-927-80	LCS	Aqı	ieous	N/A	01/13/18	01/1	3/18 16:25	I0113HEML2	
099-16-927-80	LCSD	Aqı	ieous	N/A	01/13/18	01/1	3/18 16:25	I0113HEML2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	17.90	90	17.80	89	64-132	1	0-34	







Quality Control - LCS/LCSD

CDIM Engineering Date Received: 01/09/18 Work Order: 18-01-0396 45 Polk Street, 3rd floor

Preparation: N/A San Francisco, CA 94102-5260 Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1 Page 2 of 3

Quality Control Sample ID	Туре	Matı	ix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	tch Number
099-09-010-8791	LCS	Aqu	eous	N/A	01/10/18	01/1	0/18 19:00	I0110TSSL4	
099-09-010-8791	LCSD	Aqu	eous	N/A	01/10/18	01/1	0/18 19:00	I0110TSSL4	
Parameter	Spike Added LO	CS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0 94	4.00	94	90.00	90	80-120	4	0-20	







Quality Control - LCS

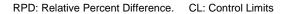
CDIM Engineering Date Received: 01/09/18
45 Polk Street, 3rd floor Work Order: 18-01-0396
San Francisco, CA 94102-5260 Preparation: N/A

Preparation: N/A Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-003-LRTC, Task 1

Page 3 of 3

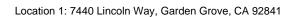
Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-094-2157	LCS	Aqueous	ICP/MS 03	01/11/18	01/11/18 19:52	180111LA2
<u>Parameter</u>	·	Spike Added	Conc. Recovere	ed LCS %Re	ec. %Rec	. CL Qualifiers
Copper		0.1000	0.1008	101	80-120)
Lead		0.1000	0.1058	106	80-120)
Zinc		0.1000	0.1014	101	80-120)
Aluminum		0.1000	0.09445	94	80-120)
Iron		5.100	5.196	102	80-120)





Sample Analysis Summary Report

Work Order: 18-01-0396				Page 1 of 1
Method	<u>Extraction</u>	Chemist ID	Instrument	Analytical Location
EPA 1664A	N/A	784	N/A	1
EPA 200.8	N/A	598	ICP/MS 03	1
SM 2540 D	N/A	1009	N/A	1
SM 4500 H+ B	N/A	1086	PH 1	1





Glossary of Terms and Qualifiers

Work Order: 18-01-0396 Page 1 of 1

Qualifiers	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are

re reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Sample Specific Notes: SDG number: COC Number: ŏ 1/8/18 Date/Time: 0 18-01-0396 Special Instructions/QC Requirements & Comments: Level II Report With reporting limit and method detection limit. Analyze and report only the metals listed above. で 四 Company Notify us of any anomalous peaks in GC or other scans. 0 0 Call immediately with any questions or problems. 1,4 Total Metals- Al, Cu, Fe, (EPA 200.8 ICP-MS) 1,3 1,4 × Oil & Grease (EPA 1664A SGT-HEM) × × Protocol ID/path: Total Suspended Solids (SM 2540D) × × Received by: (SM 4500HB) Analyte (Method ID) Field Filtered (X): 19 1335 # of Cont S S S S Analysis Turharound Time: 101-00%LRTC, Task 1 Sample Matrix 6 \geq (Specify Days or Hours) Z m Project Manager: Scott Bourne 10 Standard 7440 0859 0260 0834 Sample Time Preservation Used: 1= Ice, 2= HCl; 3= H₂SO₄; 4=HNO₃; 5=NaOH; 6= Other Company: Sample date(s): 8/18 Sample Date Sampled by: Project ID: x = Samples released to a secured, locked area. Sample Identification Address: Levin Richmond Terminal, 402 Wright Avenue, Richmond, CA 94804 PHONE Job Name: LRTC Annual Storm Water Sampling Client Contact TS3-1- 180) 08 TS1-1- 1 20108 TS4-1- 190106 TS2-1- 190108 45 POLK STREET, 3RD FLOOR 925-689-9022 SAN FRANCISCO, CA CDIM ENGINEERING (415) 498-0535 elinquished by Phone: Lab ID N 2

alved from a secured, locked area

Samples /eb

Return to Contents

Specify analytic/prep method and detection limit in report.

Equis 4-file EDWEDD required?

GeoTracker EDF required?

Please send analytic results, electronic deliverables

Chain of Custody Record

CalScience Environmental Lab 5063 Commercial Circle, Suite H

Concord, CA 94520

and the original chain-of-custody form to:

sab@cdimengineering.com mec@cdimengineering.com

INSTRUCTIONS FOR LAB PERSONNEL:

o Yes

800-322-5555 www.gso.com

Ship From

CAL SCIENCE- CONCORD ALAN KEMP 5063 COMMERCIAL CIRCLE #H CONCORD, CA 94520

Ship To CEL SAMPLE RECEIVING 7440 LINCOLN WAY GARDEN GROVE, CA 92841

COD: \$0.00
Weight: 0 lb(s)
Reference:
CDIM
Delivery Instructions:

Signature Type: STANDARD

Tracking #: 539012919

NPS



ORC



GARDEN GROVE

D92845A



77679636

Print Date: 1/8/2018 2:15 PM

Package 2 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

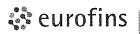
Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.







Calscience

WORK ORDER NUMBER: 18-01-0396

SAMPLE RECEIPT CHECKLIST COOLER OF

OAMING LE RECEIT I ON LOREION			
CLIENT: CDIM DAT	E: <u>01</u>	1091	2018
TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue) Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): 1			Sample
Ambient remperature. Li Air Li Tintor			
Custody SEAL: Cooler Present and Intact Present but Not Intact Not Present N/A Sample(s) Present and Intact Present but Not Intact Not Present N/A		ed by: _ ed by: _	1050
SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	🗷		
COC document(s) received complete			
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished tim	е		
Sampler's name indicated on COC			
Sample container label(s) consistent with COC			
Sample container(s) intact and in good condition			
Proper containers for analyses requested			
Sufficient volume/mass for analyses requested			
Samples received within holding time			·
Aqueous samples for certain analyses received within 15-minute holding time			Was
☑ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	🗆	Ø	81211
Proper preservation chemical(s) noted on COC and/or sample container			
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	🗹		
Container(s) for certain analysis free of headspace			2
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	🗆		
CONTAINER TYPE: (Trip Blank Lot Num)
Aqueous: DVOA DVOAh DVOAna2 D100PJ D100PJna2 D125AGB D125AGBh D125AGBp 2125AGB			
□ 250AGB □ 250CGB □ 250CGBs (pH_2) □ 250PB □ 250PBn (pH 2) □ 500AGB □ 500AGJ □ 500	AGJs (pH_	_2) 🗆 5	500PB
☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs (pH_2) ☑ 1AGBs (O&G) ☐ 1PB ☐ 1PBna (pH_12) ☐ ☐			
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve () EnCores® () TerraCores® ()			
Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ Other Matrix (): ☐		□.	
Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/R	esealable f	3ag	
Preservative: $b = buffered$, $f = filtered$, $h = HCI$, $n = HNO_3$, $na = NaOH$, $na_2 = Na_2S_2O_3$, $p = H_3PO_4$, Labe	led/Check		~
$s = H_2SO_4$, $u = ultra-pure$, $x = Na_2SO_3+NaHSO_4$. H_2O , $znna = Zn (CH_3CO_2)_2 + NaOH$	Review	red by:	770_



January 30, 2018

Vista Work Order No. 1800038

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on January 09, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-003-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

Work Order 1800038 Page 1 of 12

Vista Work Order No. 1800038 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800038-01	TS2-E-180108	08-Jan-18 09:31	09-Jan-18 09:46	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle. 1L

Vista Project: 1800038 Client Project: 101-003-LRTC, Task 1

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ANALYTICAL RESULTS

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Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8A0064 Lab Sample: B8A0064-BLK1

Sample Size: 1.00 L Date Extracted: 11-Jan-2018 11:39 Date Analyzed: 23-Jan-18 21:32 Column: ZB-50

Analyte C	onc. (pg/L)	DL	EMPC	Qualifiers]	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	5.23			J	IS	13C6-Hexachlorobenzene	45.9	5 - 120	
alpha-BHC	ND	2.59			IS	13C6-alpha-BHC	74.7	32 - 130	
Lindane (gamma-BHC)	ND	3.11			IS	13C6-Lindane (gamma-BHC)	86.8	11 - 120	
beta-BHC	ND	3.29			IS	13C6-beta-BHC	87.8	32 - 130	
delta-BHC	ND	2.58			IS	13C6-delta-BHC	88.3	36 - 137	
Heptachlor	ND	0.879			IS	13C10-Heptachlor	70.6	5 - 120	
Aldrin	ND	1.55			IS	13C12-Aldrin	71.7	5 - 120	
Oxychlordane	ND	4.30			IS	13C10-Oxychlordane	83.4	23 - 135	
cis-Heptachlor Epoxide	ND	3.39			IS	13C10-cis-Heptachlor Epoxide	86.6	27 - 137	
trans-Heptachlor Epoxido	e ND	10.5			IS	13C10-trans-Chlordane (gamma)	91.0	21 - 132	
trans-Chlordane (gamma) ND	4.23			IS	13C10-trans-Nonachlor	84.7	14 - 136	
trans-Nonachlor	ND	4.36			IS	13C9-Endosulfan I (alpha)	82.8	15 - 148	
cis-Chlordane (alpha)	ND	4.27			IS	13C12-2,4'-DDE	84.6	47 - 160	
Endosulfan I (alpha)	ND	5.32			IS	13C12-4,4'-DDE	86.2	47 - 160	
2,4'-DDE	ND	3.11			IS	13C12-Dieldrin	93.1	40 - 151	
4,4'-DDE	ND	3.79			IS	13C12-Endrin	104	35 - 155	
Dieldrin	ND	2.36			IS	13C10-cis-Nonachlor	87.6	36 - 139	
Endrin	ND	3.17			IS	13C9-Endosulfan II (beta)	96.8	5 - 122	
cis-Nonachlor	ND	4.84			IS	13C12-2,4'-DDD	95.1	5 - 199	
Endosulfan II (beta)	ND	6.71			IS	13C12-2,4'-DDT	86.1	5 - 199	
2,4'-DDD	ND	3.78			IS	13C12-4,4'-DDD	95.1	5 - 120	
2,4'-DDT	ND	5.33			IS	13C12-4,4'-DDT	87.8	5 - 120	
4,4'-DDD	ND	3.91			IS	13C9-Endosulfan Sulfate	89.9	15 - 148	
4,4'-DDT	ND	6.23			IS	13C12-Methoxychlor	87.4	5 - 120	
Endosulfan Sulfate	ND	5.53			IS	13C10-Mirex	82.5	5 - 120	
4,4'-Methoxychlor	ND	2.82			IS	13C12-Endrin Aldehyde	56.7	15 - 148	
Mirex	ND	1.20			IS	13C12-Endrin Ketone	90.6	15 - 148	
Endrin Aldehyde	ND	4.06							
Endrin Ketone	ND	5.28							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8A0064 Lab Sample: B8A0064-BS1

Sample Size: 1.00 L Date Extracted: 11-Jan-2018 11:39 Date Analyzed: 24-Jan-18 18:03 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
Hexachlorobenzene	1010	1000	101	50 - 120	IS	13C6-Hexachlorobenzene	42.8	5 - 120
alpha-BHC	991	1000	99.1	50 - 120	IS	13C6-alpha-BHC	76.7	17 - 141
Lindane (gamma-BHC)	989	1000	98.9	50 - 120	IS	13C6-Lindane (gamma-BHC)	87.2	5 - 124
beta-BHC	966	1000	96.6	50 - 120	IS	13C6-beta-BHC	95.0	17 - 141
delta-BHC	974	1000	97.4	50 - 120	IS	13C6-delta-BHC	94.0	16 - 150
Heptachlor	974	1000	97.4	50 - 120	IS	13C10-Heptachlor	77.8	5 - 128
Aldrin	996	1000	99.6	50 - 120	IS	13C12-Aldrin	66.2	5 - 126
Oxychlordane	842	1000	84.2	50 - 120	IS	13C10-Oxychlordane	88.2	5 - 144
cis-Heptachlor Epoxide	968	1000	96.8	50 - 120	IS	13C10-cis-Heptachlor Epoxide	92.3	8 - 146
trans-Heptachlor Epoxide	1010	1000	101	50 - 120	IS	13C10-trans-Chlordane (gamma)	77.9	15 - 144
trans-Chlordane (gamma)	1080	1000	108	50 - 120	IS	13C10-trans-Nonachlor	85.9	13 - 149
trans-Nonachlor	932	1000	93.2	50 - 120	IS	13C9-Endosulfan I (alpha)	78.8	5 - 144
cis-Chlordane (alpha)	876	1000	87.6	50 - 120	IS	13C12-2,4'-DDE	74.1	26 - 169
Endosulfan I (alpha)	982	1000	98.2	50 - 120	IS	13C12-4,4'-DDE	83.5	26 - 169
2,4'-DDE	1030	1000	103	24 - 123	IS	13C12-Dieldrin	84.1	19 - 161
4,4'-DDE	993	1000	99.3	50 - 120	IS	13C12-Endrin	97.3	20 - 157
Dieldrin	948	1000	94.8	50 - 120	IS	13C10-cis-Nonachlor	88.1	17 - 154
Endrin	1020	1000	102	50 - 120	IS	13C9-Endosulfan II (beta)	87.5	5 - 120
cis-Nonachlor	900	1000	90.0	50 - 120	IS	13C12-2,4'-DDD	95.7	14 - 200
Endosulfan II (beta)	1040	1000	104	5 - 200	IS	13C12-2,4'-DDT	94.5	14 - 200
2,4'-DDD	1040	1000	104	50 - 120	IS	13C12-4,4'-DDD	96.4	14 - 200
2,4'-DDT	1030	1000	103	50 - 120	IS	13C12-4,4'-DDT	104	13 - 200
4,4'-DDD	1000	1000	100	42 - 120	IS	13C9-Endosulfan Sulfate	79.6	5 - 144
4,4'-DDT	1020	1000	102	50 - 120	IS	13C12-Methoxychlor	100	8 - 200
Endosulfan Sulfate	942	1000	94.2	50 - 120	IS	13C10-Mirex	88.9	5 - 138
4,4'-Methoxychlor	1010	1000	101	50 - 120	IS	13C12-Endrin Aldehyde	45.6	5 - 144
Mirex	980	1000	98.0	50 - 120	IS	13C12-Endrin Ketone	88.2	5 - 144
Endrin Aldehyde	932	1000	93.2	50 - 134				
Endrin Ketone	921	1000	92.1	50 - 134				

LCL-UCL - Lower control limit - upper control limit

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Sample ID:	ГS2-Е-180108								EPA Met	hod 1699
Project:	CDIM Engineering 101-003-LRTC, Task 1 08-Jan-2018 9:31	1	mple Data Matrix: Sample Size:	Water 1.04 L	Lab QC	oratory Samp Batch te Anal	ole: 1800038-01	Date Received: Date Extracted: : ZB-50		
Analyte	Conc. (pg/L)	DL	EMPC	Qua	lifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	14.9			J,		IS	13C6-Hexachlorobenzene	59.8	5 - 120	
alpha-BHC	42.8					IS	13C6-alpha-BHC	83.7	32 - 130	
Lindane (gamma-BH	IC) 71.5					IS	13C6-Lindane (gamma-BHC)	93.7	11 - 120	
beta-BHC	37.3			J	J	IS	13C6-beta-BHC	99.8	32 - 130	
delta-BHC	4.32			J	J	IS	13C6-delta-BHC	98.4	36 - 137	
Heptachlor	ND	1.56				IS	13C10-Heptachlor	86.8	5 - 120	
Aldrin	ND	4.99				IS	13C12-Aldrin	70.5	5 - 120	
Oxychlordane	ND	13.2				IS	13C10-Oxychlordane	85.6	23 - 135	
cis-Heptachlor Epoxi	ide ND		35.9			IS	13C10-cis-Heptachlor Epoxide	95.7	27 - 137	
trans-Heptachlor Epo	oxide ND		101			IS	13C10-trans-Chlordane (gamma) 89.2	21 - 132	
trans-Chlordane (gam	nma) 42.6					IS	13C10-trans-Nonachlor	93.6	14 - 136	
trans-Nonachlor	ND	11.4				IS	13C9-Endosulfan I (alpha)	80.4	15 - 148	
cis-Chlordane (alpha)) 59.7					IS	13C12-2,4'-DDE	74.3	47 - 160	
Endosulfan I (alpha)	ND	18.4				IS	13C12-4,4'-DDE	86.7	47 - 160	
2,4'-DDE	ND	2.13				IS	13C12-Dieldrin	84.0	40 - 151	
4,4'-DDE	55.5					IS	13C12-Endrin	107	35 - 155	
Dieldrin	1010					IS	13C10-cis-Nonachlor	93.6	36 - 139	
Endrin	398					IS	13C9-Endosulfan II (beta)	88.5	5 - 122	
cis-Nonachlor	ND	9.98				IS	13C12-2,4'-DDD	102	5 - 199	
Endosulfan II (beta)	ND	17.1				IS	13C12-2,4'-DDT	103	5 - 199	
2,4'-DDD	73.2					IS	13C12-4,4'-DDD	102	5 - 120	
2,4'-DDT	38.8					IS	13C12-4,4'-DDT	112	5 - 120	
4,4'-DDD	99.7					IS	13C9-Endosulfan Sulfate	94.7	15 - 148	
4,4'-DDT	95.9					IS	13C12-Methoxychlor	111	5 - 120	
Endosulfan Sulfate	ND	7.44				IS	13C10-Mirex	90.5	5 - 120	
4,4'-Methoxychlor	ND	2.73				IS	13C12-Endrin Aldehyde	69.4	15 - 148	
Mirex	ND	0.725				IS	13C12-Endrin Ketone	97.2	15 - 148	
Endrin Aldehyde	ND	2.90								
Endrin Ketone	425									

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
ND	Not Detected
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

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CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

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1800038 4.5°C

Chain of Custody Record INSTRUCTIONS FOR LAB PERSONNEL: Please send analytic results, electronic deliverables GeoTracker EDF required? x No Vista Analytical and the original chain-of-custody form to: Equis 4-file EDWEDD required? X Yes DNo 1104 Windfield Way sab@cdimengineering.com Specify analytic/prep method and detection limit in report. El Dorado Hills, CA 95762 mec@cdimengineering.com Notify us of any anomalous peaks in GC or other scans. Phone: (916) 673-1520 Call immediately with any questions or problems Client Contact Project Manager: Scott Bourne Protocol ID/path: COC Number: CDIM ENGINEERING Project ID: 101-002, LRTC, Task 1 45 POLK STREET, 3RD FLOOR Sampled by: MEC/LZ SAN FRANCISCO, CA Sample date(s): Analyte (Method ID) (415) 498-0535 PHONE Analysis Turnaround Time: SDG number: Pesticides (EPA Job Name: LRTC Annual Storm Water Sampling Standard Levin Richmond Terminal, (Specify Days or Hours) 402 Wright Avenue, Richmond, CA 94804 Sample Sample # of Sample Identification Lab ID Sample Date Sample Specific Notes: Time Matrix Cont. TS2-E- 19009 1/8/18 X 3 Field Filtered (X): Preservation Used: 1= Ice, 2= HCI; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Special Instructions/QC Requirements & Comments: Level II Report. Report with reporting limit and method detection limit. Please use agreed upon analyte list for EPA 1699. contriberi for analysis Relinquished by: Company: Received by: Company: X COM Lishan Zhu 118/18/2:22 Engineering 0 Relinquished by: Company: Company: 0 Relinquished by: Company: Date/Time: Received by: Company: Date/Time: x = Samples released to a secured, locked area. . = Samples received from a secured, locked area

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Sample Log-in Checklist

Vista Work Order #:	1800038	TAT STA
	104-11-0	

Samples Arrival:	Ol/9/18		146	Initials:		Location: WR-2 Shelf/Rack: N/8		
Logged In:	Date/Time		Initials:		Location: WR-2 Shelf/Rack: C-3			
Delivered By:	FedEx	UPS	On Tra	c GSO	DH	L	Hand Delivered	Other
Preservation: (Ice)		e)	Blue Ice		Dry Ice None		None	
Temp °C: 4.6 (uncorrected) Temp °C: 4.5 (corrected)			Time: 0057 Probe used: Yes□ No⊠			Thermometer ID: IR-4		

				YES	NO	NA
Adequate Sample Volu	9					
Holding Time Acceptat	ole?			1	T	
Shipping Container(s)	ntact?			1		
Shipping Custody Seal	s Intact?					1
Shipping Documentation	n Present?			1		
Airbill	Trk # 7892 6653 6660					
Sample Container Inta	ot?			1		
Sample Custody Seals	Intact?					1
Chain of Custody / San	nple Document	ation Pre	sent?	1		
COC Anomaly/Sample Acceptance Form completed?					1	1
If Chlorinated or Drinkin	ng Water Samp	les, Acce	eptable Preservation?			1
Preservation Documen	ted: Na₂S	S ₂ O ₃	Trizma None	Yes)	No	NA
Shipping Container	turn	Disp	ose			

Comments:



January 31, 2018

Vista Work Order No. 1800039

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on January 09, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-003-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

Work Order 1800039 Page 1 of 12

Vista Work Order No. 1800039 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the method acceptance criteria are listed in the table below:

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1800039-01	TS2-I-180108	EPA Method 1699	13C6-Lindane (gamma-BHC)	Н	122
1800039-01	TS2-I-180108	EPA Method 1699	13C12-2,4'-DDE	Н	31.0
1800039-01	TS2-I-180108	EPA Method 1699	13C12-4,4'-DDE	Н	23.7
1800039-01	TS2-I-180108	EPA Method 1699	13C12-Dieldrin	Н	35.9
1800039-01	TS2-I-180108	EPA Method 1699	13C12-Endrin	Н	32.5
1800039-01	TS2-I-180108	EPA Method 1699	13C10-cis-Nonachlor	Н	23.2
1800039-01	TS2-I-180108	EPA Method 1699	13C12-Endrin Aldehyde	Н	11.7
1800039-01	TS2-I-180108	EPA Method 1699	13C12-Endrin Ketone	Н	11.2

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers				
1800039-01	TS2-I-180108	08-Jan-18 09:44	09-Jan-18 09:46	Amber Glass NM Bottle, 1L				
				Amber Glass NM Bottle, 1L				
				Amber Glass NM Bottle, 1L				

Vista Project: 1800039 Client Project: 101-003-LRTC, Task 1

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ANALYTICAL RESULTS

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Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8A0064 Lab Sample: B8A0064-BLK1

Sample Size: 1.00 L Date Extracted: 11-Jan-2018 11:39 Date Analyzed: 23-Jan-18 21:32 Column: ZB-50

Analyte C	onc. (pg/L)	DL	EMPC Qualifier	:	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	5.23		J	IS	13C6-Hexachlorobenzene	45.9	5 - 120	
alpha-BHC	ND	2.59		IS	13C6-alpha-BHC	74.7	32 - 130	
Lindane (gamma-BHC)	ND	3.11		IS	13C6-Lindane (gamma-BHC)	86.8	11 - 120	
beta-BHC	ND	3.29		IS	13C6-beta-BHC	87.8	32 - 130	
delta-BHC	ND	2.58		IS	13C6-delta-BHC	88.3	36 - 137	
Heptachlor	ND	0.879		IS	13C10-Heptachlor	70.6	5 - 120	
Aldrin	ND	1.55		IS	13C12-Aldrin	71.7	5 - 120	
Oxychlordane	ND	4.30		IS	13C10-Oxychlordane	83.4	23 - 135	
cis-Heptachlor Epoxide	ND	3.39		IS	13C10-cis-Heptachlor Epoxide	86.6	27 - 137	
trans-Heptachlor Epoxide	e ND	10.5		IS	13C10-trans-Chlordane (gamma)	91.0	21 - 132	
trans-Chlordane (gamma)) ND	4.23		IS	13C10-trans-Nonachlor	84.7	14 - 136	
trans-Nonachlor	ND	4.36		IS	13C9-Endosulfan I (alpha)	82.8	15 - 148	
cis-Chlordane (alpha)	ND	4.27		IS	13C12-2,4'-DDE	84.6	47 - 160	
Endosulfan I (alpha)	ND	5.32		IS	13C12-4,4'-DDE	86.2	47 - 160	
2,4'-DDE	ND	3.11		IS	13C12-Dieldrin	93.1	40 - 151	
4,4'-DDE	ND	3.79		IS	13C12-Endrin	104	35 - 155	
Dieldrin	ND	2.36		IS	13C10-cis-Nonachlor	87.6	36 - 139	
Endrin	ND	3.17		IS	13C9-Endosulfan II (beta)	96.8	5 - 122	
cis-Nonachlor	ND	4.84		IS	13C12-2,4'-DDD	95.1	5 - 199	
Endosulfan II (beta)	ND	6.71		IS	13C12-2,4'-DDT	86.1	5 - 199	
2,4'-DDD	ND	3.78		IS	13C12-4,4'-DDD	95.1	5 - 120	
2,4'-DDT	ND	5.33		IS	13C12-4,4'-DDT	87.8	5 - 120	
4,4'-DDD	ND	3.91		IS	13C9-Endosulfan Sulfate	89.9	15 - 148	
4,4'-DDT	ND	6.23		IS	13C12-Methoxychlor	87.4	5 - 120	
Endosulfan Sulfate	ND	5.53		IS	13C10-Mirex	82.5	5 - 120	
4,4'-Methoxychlor	ND	2.82		IS	13C12-Endrin Aldehyde	56.7	15 - 148	
Mirex	ND	1.20		IS	13C12-Endrin Ketone	90.6	15 - 148	
Endrin Aldehyde	ND	4.06						
Endrin Ketone	ND	5.28						

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8A0064 Lab Sample: B8A0064-BS1

Sample Size: 1.00 L Date Extracted: 11-Jan-2018 11:39 Date Analyzed: 24-Jan-18 18:03 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL	
Hexachlorobenzene	1010	1000	101	50 - 120	IS	13C6-Hexachlorobenzene	42.8	5 - 120	
alpha-BHC	991	1000	99.1	50 - 120	IS	13C6-alpha-BHC	76.7	17 - 141	
Lindane (gamma-BHC)	989	1000	98.9	50 - 120	IS	13C6-Lindane (gamma-BHC)	87.2	5 - 124	
beta-BHC	966	1000	96.6	50 - 120	IS	13C6-beta-BHC	95.0	17 - 141	
delta-BHC	974	1000	97.4	50 - 120	IS	13C6-delta-BHC	94.0	16 - 150	
Heptachlor	974	1000	97.4	50 - 120	IS	13C10-Heptachlor	77.8	5 - 128	
Aldrin	996	1000	99.6	50 - 120	IS	13C12-Aldrin	66.2	5 - 126	
Oxychlordane	842	1000	84.2	50 - 120	IS	13C10-Oxychlordane	88.2	5 - 144	
cis-Heptachlor Epoxide	968	1000	96.8	50 - 120	IS	13C10-cis-Heptachlor Epoxide	92.3	8 - 146	
trans-Heptachlor Epoxide	1010	1000	101	50 - 120	IS	13C10-trans-Chlordane (gamma)	77.9	15 - 144	
trans-Chlordane (gamma)	1080	1000	108	50 - 120	IS	13C10-trans-Nonachlor	85.9	13 - 149	
trans-Nonachlor	932	1000	93.2	50 - 120	IS	13C9-Endosulfan I (alpha)	78.8	5 - 144	
cis-Chlordane (alpha)	876	1000	87.6	50 - 120	IS	13C12-2,4'-DDE	74.1	26 - 169	
Endosulfan I (alpha)	982	1000	98.2	50 - 120	IS	13C12-4,4'-DDE	83.5	26 - 169	
2,4'-DDE	1030	1000	103	24 - 123	IS	13C12-Dieldrin	84.1	19 - 161	
4,4'-DDE	993	1000	99.3	50 - 120	IS	13C12-Endrin	97.3	20 - 157	
Dieldrin	948	1000	94.8	50 - 120	IS	13C10-cis-Nonachlor	88.1	17 - 154	
Endrin	1020	1000	102	50 - 120	IS	13C9-Endosulfan II (beta)	87.5	5 - 120	
cis-Nonachlor	900	1000	90.0	50 - 120	IS	13C12-2,4'-DDD	95.7	14 - 200	
Endosulfan II (beta)	1040	1000	104	5 - 200	IS	13C12-2,4'-DDT	94.5	14 - 200	
2,4'-DDD	1040	1000	104	50 - 120	IS	13C12-4,4'-DDD	96.4	14 - 200	
2,4'-DDT	1030	1000	103	50 - 120	IS	13C12-4,4'-DDT	104	13 - 200	
4,4'-DDD	1000	1000	100	42 - 120	IS	13C9-Endosulfan Sulfate	79.6	5 - 144	
4,4'-DDT	1020	1000	102	50 - 120	IS	13C12-Methoxychlor	100	8 - 200	
Endosulfan Sulfate	942	1000	94.2	50 - 120	IS	13C10-Mirex	88.9	5 - 138	
4,4'-Methoxychlor	1010	1000	101	50 - 120	IS	13C12-Endrin Aldehyde	45.6	5 - 144	
Mirex	980	1000	98.0	50 - 120	IS	13C12-Endrin Ketone	88.2	5 - 144	
Endrin Aldehyde	932	1000	93.2	50 - 134					
Endrin Ketone	921	1000	92.1	50 - 134					

LCL-UCL - Lower control limit - upper control limit

Work Order 1800039 Page 7 of 12

Sample ID: TS2-I	-180108							EPA Met	hod 1699
Client Data		Sample Data		Labor	atory I	Data			
Name: CDIM	Engineering	Matrix:	Water	Lab Sample: 1800039-01		e: 1800039-01	Date Received:	09-Jan-2018	9:46
Project: 101-00	03-LRTC, Task 1	Sample Size:	1.04 L	QC I	Batch:	B8A0064	Date Extracted:	11-Jan-2018	3 11:39
Date Collected: 08-Jan	-2018 9:44			Date	Analyz	zed: 24-Jan-18 22:07 Column:	ZB-50		
						30-Jan-18 14:53 Column:	ZB-50		
Analyte Conc.	(pg/L) DL	EMPC	Quali	ifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	1070		В		IS	13C6-Hexachlorobenzene	89.4	5 - 120	
alpha-BHC	63.2				IS	13C6-alpha-BHC	84.3	32 - 130	
Lindane (gamma-BHC)	66.3				IS	13C6-Lindane (gamma-BHC)	122	11 - 120	Н
beta-BHC	ND	62.3			IS	13C6-beta-BHC	60.6	32 - 130	
delta-BHC	ND 16.6	5			IS	13C6-delta-BHC	65.0	36 - 137	
Heptachlor	68.3				IS	13C10-Heptachlor	67.7	5 - 120	
Aldrin	82.1				IS	13C12-Aldrin	44.4	5 - 120	
Oxychlordane	ND 99.7	7			IS	13C10-Oxychlordane	41.6	23 - 135	
cis-Heptachlor Epoxide	ND	120			IS	13C10-cis-Heptachlor Epoxide	39.0	27 - 137	
trans-Heptachlor Epoxide	ND 245				IS	13C10-trans-Chlordane (gamma)	24.6	21 - 132	
trans-Chlordane (gamma)	1060				IS	13C10-trans-Nonachlor	32.1	14 - 136	
trans-Nonachlor	ND	491			IS	13C9-Endosulfan I (alpha)	79.7	15 - 148	D
cis-Chlordane (alpha)	991				IS	13C12-2,4'-DDE	31.0	47 - 160	Н
Endosulfan I (alpha)	ND 100)	D	·	IS	13C12-4,4'-DDE	23.7	47 - 160	Н
2,4'-DDE	961				IS	13C12-Dieldrin	35.9	40 - 151	Н
4,4'-DDE	17000				IS	13C12-Endrin	32.5	35 - 155	Н
Dieldrin	3070				IS	13C10-cis-Nonachlor	23.2	36 - 139	Н
Endrin	1360				IS	13C9-Endosulfan II (beta)	18.4	5 - 122	
cis-Nonachlor	ND 172				IS	13C12-2,4'-DDD	33.3	5 - 199	
Endosulfan II (beta)	ND 250)			IS	13C12-2,4'-DDT	26.1	5 - 199	
2,4'-DDD	5090				IS	13C12-4,4'-DDD	21.1	5 - 120	
2,4'-DDT	9460				IS	13C12-4,4'-DDT	27.4	5 - 120	D
4,4'-DDD	12400				IS	13C9-Endosulfan Sulfate	42.9	15 - 148	D
4,4'-DDT	26600		D	·	IS	13C12-Methoxychlor	14.8	5 - 120	
Endosulfan Sulfate	ND 382		D)	IS	13C10-Mirex	17.8	5 - 120	
4,4'-Methoxychlor	ND 1120)			IS	13C12-Endrin Aldehyde	11.7	15 - 148	Н
Mirex	ND 98.6	5			IS	13C12-Endrin Ketone	11.2	15 - 148	Н
Endrin Aldehyde	ND 565								
Endrin Ketone	ND 1260	0							
DL - Sample specific estimated	17 7 17 7					Lower control limit upper control limit			

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Work Order 1800039 Page 8 of 12

DATA QUALIFIERS & ABBREVIATIONS

В This compound was also detected in the method blank. D **Dilution** \mathbf{E} The associated compound concentration exceeded the calibration range of the instrument. Н Recovery and/or RPD was outside laboratory acceptance limits. **Chemical Interference** I J The amount detected is below the Reporting Limit/LOQ. \mathbf{M} **Estimated Maximum Possible Concentration.** (CA Region 2 projects only) **See Cover Letter** Conc. Concentration NA Not applicable ND **Not Detected** TEQ **Toxic Equivalency** \mathbf{U}

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Not Detected (specific projects only)

Page 9 of 12 Work Order 1800039

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

Work Order 1800039 Page 10 of 12

Chain of Custody Record Vista Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 673-1520		Please send analy and the original ch- sab@cdimenginee mec@cdimenginee	Equis 4-file EDWEDD required? x Yes Do No Specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems.																					
	Client Contact	Project Manager: Scott Bourne					col ID/p	eath:														COC Nu	mber:	
	GINEERING	Project ID: 101-002-LRTC, Task 1 Sampled by: Z/MEC Sample date(s): 1/9/19																			1			
	STREET, 3RD FLOOR									10						11								
SAN FRAI	NCISCO, CA					7_1												1			Page		of _	
(415) 498-	0535 PHONE	Analysi	s Turnaro	und Time	e:	Analyte (Method ID)	(669															SDG nu		
Job Name	: LRTC Annual Storm Water Sampling	Standard					PA						1							194	_	SDG NU	mber.	
Address:	Levin Richmond Terminal, 402 Wright Avenue, Richmond, CA 94804	(Sp	ecify Days or	Hours)		alyte (Pesticides (EPA 1699)																	
Lab ID	Sample Identification	Sample Date	Sample Time	Sample Matrix	# of Cont.	Ang	Pestici														Sar	nple Spe	ific Note	es:
H k T	TS2-I-190109	1/9/18	0944		3		Х				Ē						wij	H		la i	(11)			
		V														į.								
						ı										1								
															Total Park									
							+	+							1									
														W				Ī						
				Field I	Filtered ()	X):	+	-		-	-			W.										
Pre	eservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4=H	NO.: 5=NaOH: 6= Of	her	7.73.00		-	1	+			\vdash		1	-	-				-					
	structions/QC Requirements & Commen		ort. Report	with report	ting limit	and r	netho	d detec	tion li	mit. P	Please	use	agree	d upo	n an	nalyte	list	for El	PA 16	599.				
Relinquished LiShe	in the two x	COMPANY:	gineerin		18 12:	21	ved by:	MSa	ally	1		1	(ompa	any:	Jah	٠			Date/Tim	e: 1/q	18 09	159
Relinquished	1 by:	Company:	7	Date/Time:		Recei	ved by:	q				-			ompa	any:					Date/Tim	e:		
Relinquished by: Company:			Company: Date/Time:					Received by:							Company:						Date/Tim	Date/Time:		
	x = Samples released to a secured, locked	area.						= Sample	s receiv	ed from	m a sec	ured, I		- 1										



Sample Log-in Checklist

Vista Work Orde	er#:	39			TAT_Std	
Samples Arrival:	Date/Time)946	Initials: Location: WR-2 WS Shelf/Rack: V/8			
Logged In:	Date/Time		Initials:		Location: WZ-2 Shelf/Rack: (-3	
Delivered By:	FedEx UP	S On Tra	ac GSO	DH	L Hand Delivered	Other
Preservation:	(Ice)	BI	ue Ice		Dry Ice	None
Temp °C: ५,6	Time: 0	57 ed: Yes□	No.M	Thermometer ID: IR-4		

			YES	NO	NA
Adequate Sample Volume F	Received?		./		
Holding Time Acceptable?		/			
Shipping Container(s) Intac	?		1		
Shipping Custody Seals Inta	act?				1
Shipping Documentation Pr	esent?		1		
Airbill Trk :	1				
Sample Container Intact?			1		
Sample Custody Seals Intac	et?				1
Chain of Custody / Sample	Documentation Pre	sent?	1	+I	
COC Anomaly/Sample Acce	eleted?		1	1	
If Chlorinated or Drinking W	ater Samples, Acce	eptable Preservation?			1
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma None	Yes) No	NA
Shipping Container	Vista	Client Retain Re	turn	Disp	ose

Comments:

ID.: LR - SLC

Rev No.: 0

Rev Date: 05/18/2017

Page: 1 of 1



Calscience

Supplemental Report 1

The original report has been revised/corrected.



WORK ORDER NUMBER: 18-01-1557

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

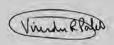
Client Project Name: LRTC Annual Storm Water Sampling / 101-

002-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260



Approved for release on 02/05/2018 by:

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name:	LRTC Annual Storm Water Sampling	/ 101-002-LRTC, Task 1
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Work Order Number: 18-01-1557

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3	QC Association Summary	5
4	Detections Summary	6
5	Client Sample Data. 5.1 EPA 1664A HEM-SGT: Oil and Grease (Aqueous). 5.2 SM 2540 D Total Suspended Solids (Aqueous). 5.3 SM 4500 H+ B pH (Aqueous). 5.4 EPA 200.8 ICP/MS Metals (Aqueous).	8 9 10 11
6	Quality Control Sample Data. 6.1 MS/MSD. 6.2 Sample Duplicate. 6.3 LCS/LCSD.	13 13 15 17
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Work Order Narrative

Work Order: 18-01-1557 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/23/18. They were assigned to Work Order 18-01-1557.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.





Sample Summary

Client: CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Work Order: Project Name:

18-01-1557

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

PO Number:

Date/Time 01/23/18 10:30

Received:

Number of 28

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-E-180122	18-01-1557-1	01/22/18 08:25	9	Aqueous
TS2-E-180122	18-01-1557-2	01/22/18 08:50	5	Aqueous
TS3-E-180122	18-01-1557-3	01/22/18 09:25	5	Aqueous
TS4-E-180122	18-01-1557-4	01/22/18 09:35	4	Aqueous
TSX-E-DUP-180122	18-01-1557-5	01/22/18 08:25	5	Aqueous





QC Association Summary

Work Order: 18-01	-1557				Pag	je 1 of 1
Client Sample ID	Method Name	Type	Ext Name	<u>Instrument</u>	MS/MSD/SDP	LCS/LCSD
TS1-E-180122	EPA 1664A HEM-SGT: Oil and Grease		N/A	N/A	I0125HEMS2	I0125HEML2
TS1-E-180122	EPA 200.8 ICP/MS Metals		N/A	ICP/MS 03	180129SA6	180129LA6
TS1-E-180122	SM 2540 D Total Suspended Solids		N/A	N/A	I0124TSSD1	I0124TSSL1
TS1-E-180122	SM 4500 H+ B pH		N/A	PH 1	I0123PHD1	
TS2-E-180122	EPA 1664A HEM-SGT: Oil and Grease		N/A	N/A	I0125HEMS2	I0125HEML2
TS2-E-180122	EPA 200.8 ICP/MS Metals		N/A	ICP/MS 03	180129SA6	180129LA6
TS2-E-180122	SM 2540 D Total Suspended Solids		N/A	N/A	I0124TSSD1	I0124TSSL1
TS2-E-180122	SM 4500 H+ B pH		N/A	PH 1	I0123PHD1	
TS3-E-180122	EPA 1664A HEM-SGT: Oil and Grease		N/A	N/A	I0125HEMS2	I0125HEML2
TS3-E-180122	EPA 200.8 ICP/MS Metals		N/A	ICP/MS 03	180129SA6	180129LA6
TS3-E-180122	SM 2540 D Total Suspended Solids		N/A	N/A	I0124TSSD1	I0124TSSL1
TS3-E-180122	SM 4500 H+ B pH		N/A	PH 1	I0123PHD1	
TS4-E-180122	EPA 1664A HEM-SGT: Oil and Grease		N/A	N/A	I0125HEMS2	I0125HEML2
TS4-E-180122	EPA 200.8 ICP/MS Metals		N/A	ICP/MS 03	180129SA6	180129LA6
TS4-E-180122	EPA 200.8 ICP/MS Metals	R	N/A	ICP/MS 03	180129SA6	180129LA6
TS4-E-180122	SM 2540 D Total Suspended Solids		N/A	N/A	I0124TSSD1	I0124TSSL1
TS4-E-180122	SM 4500 H+ B pH		N/A	PH 1	I0123PHD1	
TSX-E-DUP-180122	EPA 1664A HEM-SGT: Oil and Grease		N/A	N/A	I0125HEMS2	I0125HEML2
TSX-E-DUP-180122	EPA 200.8 ICP/MS Metals		N/A	ICP/MS 03	180129SA6	180129LA6
TSX-E-DUP-180122	SM 2540 D Total Suspended Solids		N/A	N/A	I0124TSSD1	I0124TSSL1
TSX-E-DUP-180122	SM 4500 H+ B pH		N/A	PH 1	I0123PHD1	



San Francisco, CA 94102-5260

Detections Summary

Client: CDIM Engineering Work Order: 18-01-1557

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

Received: 01/23/18

Attn: Scott Bourne Page 1 of 2

Client SampleID						
Analyte	Result	Qualifiers	<u>RL</u>	<u>Units</u>	Method	Extraction
	<u></u>		<u>=</u>	<u> </u>	<u></u>	<u> </u>
TS1-E-180122 (18-01-1557-1)						
Copper	0.00116		0.00100	mg/L	EPA 200.8	N/A
Lead	0.000819	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0765		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0284	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0384	J	0.00926*	mg/L	EPA 200.8	N/A
рН	8.91	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS2-E-180122 (18-01-1557-2)						
Copper	0.00235		0.00100	mg/L	EPA 200.8	N/A
Lead	0.000999	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0572		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0170	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0326	J	0.00926*	mg/L	EPA 200.8	N/A
рН	8.42	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS3-E-180122 (18-01-1557-3)						
Copper	0.00164		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00114		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0595		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0121	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0150	J	0.00926*	mg/L	EPA 200.8	N/A
Solids, Total Suspended	1.2		1.0	mg/L	SM 2540 D	N/A
рН	8.33	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS4-E-180122 (18-01-1557-4)						
Copper	0.00377		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0511		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0209	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0867		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	8.2		1.0	mg/L	SM 2540 D	N/A
рН	7.65	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TSX-E-DUP-180122 (18-01-1557-5)						
Copper	0.00275		0.00100	mg/L	EPA 200.8	N/A
Lead	0.000959	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0630		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0171	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0292	J	0.00926*	mg/L	EPA 200.8	N/A
рН	8.31	BV,BU	0.01	pH units	SM 4500 H+ B	N/A

^{*} MDL is shown





Detections Summary

Project Name:

Client: CDIM Engineering

Scott Bourne

Work Order: 18-01-1557

45 Polk Street, 3rd floor

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

San Francisco, CA 94102-5260

01/23/18

Received:

Page 2 of 2

Client SampleID

Attn:

Analyte Result **Qualifiers Units Method Extraction** <u>RL</u>

Subcontracted analyses, if any, are not included in this summary.

^{*} MDL is shown



HEM - SGT: Oil and Grease

HEM - SGT: Oil and Grease

Analytical Report

 CDIM Engineering
 Date Received:
 01/23/18

 45 Polk Street, 3rd floor
 Work Order:
 18-01-1557

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 EPA 1664A

 Units:
 mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180122	18-01-1557-1-F	01/22/18 08:25	Aqueous	N/A	01/25/18	01/25/18 17:30	I0125HEML2
Comment(s): - Results were evaluated t	o the MDL (DL), cond	centrations >= t	o the MDL (D	L) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u>Resu</u>	<u>ılt</u> <u>l</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
HEM - SGT: Oil and Grease	ND		1.0	0.81	1.00		

TS2-E-180122	18-01-1557-2-C	01/22/18 A 08:50	queous N/A	01/25/18	01/25/18 I0125H 17:30	HEML2
Comment(s): - Results were evaluated to	the MDL (DL), conc	entrations >= to the	MDL (DL) but <	RL (LOQ), if found, ar	e qualified with a "J" flag.	
<u>Parameter</u>	<u>Resul</u>	<u>RL</u>	<u>N</u>	<u>IDL</u> <u>DF</u>	<u>Qualifiers</u>	
HEM - SGT: Oil and Grease	ND	1.0	0	.81 1.00)	

TS3-E-180122	18-	01-1557-3-C	01/22/18 09:25	Aqueous	N/A	01/25/18	01/25/18 17:30	I0125HEML
Comment(s):	- Results were evaluated to the	MDL (DL), conce	entrations >= t	o the MDL (DL	.) but < RL (LOC	Q), if found, are	qualified with a ".	J" flag.
<u>Parameter</u>		Result		<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
HEM - SGT: Oil a	and Grease	ND	•	1.0	0.81	1.00		

TS4-E-180122	18-01-1557	7-4-C 01/2 09:3	22/18 Aque 35	eous N/A		01/25/18 I0125HEML2 17:30
Comment(s):	- Results were evaluated to the MDL (D	L), concentrat	tions >= to the MI	DL (DL) but < RL (LOQ), if found, are qu	alified with a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
HEM - SGT: Oil	and Grease	ND	1.0	0.81	1.00	

TSX-E-DUP-18	0122	18-01-1557-5-C	01/22/18 08:25	Aqueous	N/A	01/25/18	01/25/18 17:30	I0125HEML2
Comment(s):	- Results were evaluate	d to the MDL (DL), cond	entrations >=	to the MDL (DI	L) but < RL	(LOQ), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	9	Qualifiers

1.0

1.0

0.81

0.81

1.00

1.00

ND

ND

Method Blank	099-16-92	7-86 N/A	Aqueous	N/A	01/25/18	01/25/18 I0125HEML2 17:30
Comment(s):	- Results were evaluated to the MDL (D	DL), concentratio	ns >= to the MDL (DI	L) but < RL (I	LOQ), if found, are o	qualified with a "J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers



Solids, Total Suspended

Analytical Report

 CDIM Engineering
 Date Received:
 01/23/18

 45 Polk Street, 3rd floor
 Work Order:
 18-01-1557

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 SM 2540 D

 Units:
 mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Qualifiers

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180122	18-01-1557-1-I	01/22/18 08:25	Aqueous	N/A	01/24/18	01/24/18 18:00	I0124TSSL1
Comment(s): - Results were evaluated to	the MDL (DL), cond	entrations >= t	o the MDL (DI) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resul	<u> t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Solids, Total Suspended	ND		1.0	0.83	1.00		

TS2-E-180122	18-01-1557-2-E 01/22 08:50		s N/A	01/24/18	01/24/18 I0124TSSL1 18:00
Comment(s): - Results were evaluated to	the MDL (DL), concentration	ons >= to the MDL ((DL) but < RL (LC	Q), if found, are	qualified with a "J" flag.
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers
Solids, Total Suspended	ND	1.0	0.83	1.00	

TS3-E-180122	18-01-1557-3-E	01/22/18 09:25	Aqueous	N/A	01/24/18	01/24/18 18:00	I0124TSSL1
Comment(s):	- Results were evaluated to the MDL (DL), co	oncentrations >= t	to the MDL (DL	but < RL (LOC	Q), if found, are	qualified with a ".	J" flag.
<u>Parameter</u>	Re	<u>sult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
Solids, Total Su	spended 1.2	2	1.0	0.83	1.00		

TS4-E-180122	18-01-155	57-4-D	01/22/18 09:35	Aqueous	N/A	01/24/18	01/24/18 18:00	10124TSSL1
Comment(s):	- Results were evaluated to the MDL (DL), conce	entrations >= to	the MDL (DL) but < RL	(LOQ), if found, are q	ualified with a ".	J" flag.
<u>Parameter</u>		Result	<u> </u>	<u> </u>	MDL	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
Solids, Total Sus	spended	8.2	1	1.0	0.83	1.00		

TSX-E-DUP-18	0122	18-01-1557-5-E	01/22/18 08:25	Aqueous	N/A	01/24/18	01/24/18 18:00	I0124TSSL1
Comment(s):	- Results were evaluated	to the MDL (DL), cond	centrations >= to	the MDL (DI	_) but < RL (L	OQ), if found, are	qualified with a "	'J" flag.
<u>Parameter</u>		Resu	<u>lt F</u>	<u> L</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>

Method Blank		099-09-010-8851	N/A	Aqueous	N/A	01/24/18	01/24/18 18:00	I0124TSSL1
Comment(s):	- Results were evaluated to	the MDL (DL) conc	entration	s >= to the MDL (DL)	hut ~ R	I (LOO) if found are	nualified with	a " l" flan

1.0

0.83

1.00

 Parameter
 Result
 RL
 MDL
 DF

 Solids, Total Suspended
 ND
 1.0
 0.83
 1.00

ND



Analytical Report

CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1557
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 4500 H+ B Units: pH units

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180122		18-01-1557-1-A	01/22/18 08:25	Aqueous	PH 1	01/23/18	01/23/18 18:38	I0123PHD1
Comment(s):	- Results were evaluated to	the MDL (DL), conc	entrations >= t	o the MDL (DL) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resul</u>	<u>t </u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
рН		8.91	(0.01	0.01	1.00	E	BV,BU

TS2-E-180122	18-01-1557-2-A	01/22/18 08:50	Aqueous	PH 1	01/23/18	01/23/18 18:38	I0123PHD1
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >=	to the MDL (DL	but < RL (LC	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
рН	8.42		0.01	0.01	1.00	E	BV,BU

TS3-E-180122	18-01-1557-3-A	01/22/18 09:25	Aqueous	PH 1	01/23/18	01/23/18 I 18:38	0123PHD ⁻
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >= to	the MDL (DL) but < RL (LO	Q), if found, are	qualified with a "J"	flag.
<u>Parameter</u>	Resu	<u>ılt R</u>	<u>L</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	ifiers
рН	8.33	0	.01	0.01	1.00	BV,E	BU

TS4-E-180122	18-01-1557-4-A	01/22/18 09:35	Aqueous	PH 1	01/23/18	01/23/18 18:38	I0123PHD1
Comment(s):	- Results were evaluated to the MDL (DL), cond	-	the MDL (DL)	but < RL (LOQ)), if found, are o		 J" flag.
<u>Parameter</u>	Resu	<u>lt</u> <u>Rl</u>	=	<u>MDL</u>	<u>DF</u>	<u>Qι</u>	<u>ualifiers</u>
На	7.65	0.	01	0.01	1.00	B\/	/.BU

TSX-E-DUP-1	80122	18-01-1557-5-A	01/22/18 08:25	Aqueous	PH 1	01/23/18	01/23/18 18:38	I0123PHD1
Comment(s):	- Results were evaluate	ed to the MDL (DL), conc	entrations >= to t	he MDL (DL)	but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resul</u>	<u>t RL</u>	į	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
pН		8.31	0.0)1	0.01	1.00	B'	V,BU



Analytical Report

CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1557
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8 Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 2

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180122		18-01-1557-1-B	01/22/18 08:25	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:17	180129LA6
Comment(s):	- Results were evaluated to	o the MDL (DL), cond	centrations >=	to the MDL (DI	_) but < RL (LOC	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	ı <u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.001	116	0.00100	0.000140	1.00		
Lead		0.000	0819	0.00100	0.0000898	1.00	J	
Zinc		0.076	35	0.00500	0.000479	1.00		
Aluminum		0.028	34	0.0500	0.00331	1.00	J	
Iron		0.038	34	0.0500	0.00926	1.00	J	

TS2-E-180122	18-01-1557-2-	B 01/22/18 08:50	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:19	180129LA6
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >	= to the MDL (DI	L) but < RL (LOC	(a), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u> </u>	Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper	0	.00235	0.00100	0.000140	1.00		
Lead	0	.000999	0.00100	0.0000898	1.00	J	
Zinc	0	0.0572	0.00500	0.000479	1.00		
Aluminum	0	0.0170	0.0500	0.00331	1.00	J	
Iron	0	.0326	0.0500	0.00926	1.00	J	

TS3-E-180122	18-01-1557-3-B	01/22/18 09:25	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:22	180129LA6
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >=	to the MDL (DL	L) but < RL (LOQ)), if found, are o	qualified with a	"J" flag.
<u>Parameter</u>	Resi	<u>ult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper	0.00	164	0.00100	0.000140	1.00		
Lead	0.00	114	0.00100	0.0000898	1.00		
Zinc	0.05	95	0.00500	0.000479	1.00		
Aluminum	0.01	21	0.0500	0.00331	1.00	J	
Iron	0.01	50	0.0500	0.00926	1.00	J	



Method Blank

Analytical Report

CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1557
San Francisco, CA 94102-5260 Preparation: N/A
Method: EPA 200.8

Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 2 of 2

Qualifiers

180129LA6

Client Sample N	umber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-E-180122		18-01-1557-4-B	01/22/18 09:35	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:24	180129LA6
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >=	to the MDL (DI	_) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>0</u>	<u>Qualifiers</u>
Copper		0.003	377	0.00100	0.000140	1.00		
Zinc		0.051	1	0.00500	0.000479	1.00		
Aluminum		0.020	9	0.0500	0.00331	1.00	J	ı
Iron		0.086	67	0.0500	0.00926	1.00		

TS4-E-180122	18-01-1557-4-B	01/22/18 09:35	Aqueous	ICP/MS 03	01/29/18	01/30/18 15:06	180129LA6
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >= to	the MDL (DI	L) but < RL (LO	Q), if found, are	e qualified with a	a "J" flag.

 Parameter
 Result
 RL
 MDL
 DF

 Lead
 ND
 0.0100
 0.000898
 10.0

099-16-094-2184

TSX-E-DUP-18	0122	18-01-1557-5-B	01/22/18 08:25	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:27	180129LA6
Comment(s):	- Results were evaluated to	the MDL (DL), conc	entrations >:	= to the MDL (DL	but < RL (LOC	(a), if found, are	qualified with	a "J" flag.
<u>Parameter</u>		Resul	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qualifiers</u>
Copper		0.002	75	0.00100	0.000140	1.00		
Lead		0.000	959	0.00100	0.0000898	1.00		J

ICP/MS 03

Aqueous

01/29/18

01/30/18

			<u></u>		
Copper	0.00275	0.00100	0.000140	1.00	
Lead	0.000959	0.00100	0.0000898	1.00	J
Zinc	0.0630	0.00500	0.000479	1.00	
Aluminum	0.0171	0.0500	0.00331	1.00	J
Iron	0.0292	0.0500	0.00926	1.00	J

N/A

					14:07	
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >=	to the MDL (DL) bu	t < RL (LOQ), if four	nd, are qualified with	n a "J" flag.
<u>Parameter</u>	<u> </u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Copper	1	ND	0.00100	0.000140	1.00	
Lead	1	ND	0.00100	0.0000898	1.00	
Zinc	1	ND	0.00500	0.000479	1.00	
Aluminum	1	ND	0.0500	0.00331	1.00	
Iron	1	ND	0.0500	0.00926	1.00	



Quality Control - Spike/Spike Duplicate

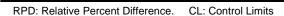
CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1557
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 1664A

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре		Matrix	Ins	strument	Date Prepared	Date Ana	lyzed	MS/MSD Ba	tch Number
TS1-E-180122	Sample		Aqueous	s N//	A	01/25/18	01/25/18	17:30	10125HEMS	2
TS1-E-180122	Matrix Spike		Aqueous	s N//	A	01/25/18	01/25/18	17:30	I0125HEMS	2
TS1-E-180122	Matrix Spike	Duplicate	Aqueous	s N//	A	01/25/18	01/25/18	17:30	I0125HEMS	2
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	ND	20.00	18.10	90	17.80	89	64-132	2	0-34	





Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1557
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 2 of 2

Quality Control Sample ID	Туре		Matrix	Inst	rument	Date Prepared	Date Ana	llyzed	MS/MSD Ba	tch Number
TS1-E-180122	Sample		Aqueou	s ICF	/MS 03	01/29/18	01/30/18	14:17	180129SA6	
TS1-E-180122	Matrix Spike		Aqueou	s ICF	/MS 03	01/29/18	01/30/18	14:12	180129SA6	
TS1-E-180122	Matrix Spike I	Duplicate	Aqueou	s ICF	/MS 03	01/29/18	01/30/18	14:14	180129SA6	
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	0.001160	0.1000	0.1044	103	0.1010	100	80-120	3	0-20	
Lead	ND	0.1000	0.1077	108	0.1056	106	80-120	2	0-20	
Zinc	0.07654	0.1000	0.1429	66	0.1512	75	80-120	6	0-20	3
Aluminum	ND	0.1000	0.1259	126	0.1227	123	80-120	3	0-20	3
Iron	ND	5.100	5.435	107	5.135	101	80-120	6	0-20	





Quality Control - Sample Duplicate

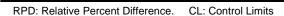
CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1557
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 2

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-1453-2	Sample	Aqueous	N/A	01/24/18 00:00	01/24/18 18:00	I0124TSSD1
18-01-1453-2	Sample Duplicate	Aqueous	N/A	01/24/18 00:00	01/24/18 18:00	I0124TSSD1
Parameter		Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total Suspended		966.0	988.0	2	0-20	



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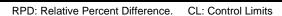
Quality Control - Sample Duplicate

01/23/18 **CDIM Engineering** Date Received: 45 Polk Street, 3rd floor Work Order: 18-01-1557 San Francisco, CA 94102-5260 Preparation: N/A

> Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
TS1-E-180122	Sample	Aqueous	PH 1	01/23/18 00:00	01/23/18 18:38	I0123PHD1
TS1-E-180122	Sample Duplicate	Aqueous	PH 1	01/23/18 00:00	01/23/18 18:38	I0123PHD1
<u>Parameter</u>		Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
рН		8.910	8.970	1	0-25	







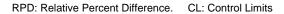
Quality Control - LCS/LCSD

CDIM Engineering Date Received: 01/23/18 45 Polk Street, 3rd floor Work Order: 18-01-1557 N/A San Francisco, CA 94102-5260 Preparation:

> Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 $\,$ Page 1 of 3

Quality Control Sample ID	Туре	Mati	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	atch Number
099-16-927-86	LCS	Aqu	ieous	N/A	01/25/18	01/2	5/18 17:30	10125HEML2	
099-16-927-86	LCSD	Aqu	ieous	N/A	01/25/18	01/2	5/18 17:30	I0125HEML2	
Parameter	Spike Added L	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	18.10	90	18.50	92	64-132	2	0-34	



01/23/18

18-01-1557



Quality Control - LCS/LCSD

CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Date Received:

Work Order:

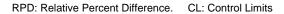
Preparation:

Preparation: N/A Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре	Mat	trix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	atch Number
099-09-010-8851	LCS	Aqı	ueous	N/A	01/24/18	01/2	4/18 18:00	I0124TSSL1	
099-09-010-8851	LCSD	Aqu	ueous	N/A	01/24/18	01/2	4/18 18:00	I0124TSSL1	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0	93.00	93	91.00	91	80-120	2	0-20	



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Quality Control - LCS

CDIM Engineering Date Received: 01/23/18 45 Polk Street, 3rd floor Work Order: 18-01-1557 San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-094-2184	LCS	Aqueous	ICP/MS 03	01/29/18	01/30/18 15:24	180129LA6
Parameter		Spike Added	Conc. Recovere	ed LCS %Re	ec. %Rec	. CL Qualifiers
Copper		0.1000	0.1020	102	80-120)
Lead		0.1000	0.1005	100	80-120)
Zinc		0.1000	0.1037	104	80-120)
Aluminum		0.1000	0.1016	102	80-120)
Iron		5.100	4.854	95	80-120)

RPD: Relative Percent Difference. CL: Control Limits



Sample Analysis Summary Report

Work Order: 18-01-1557				Page 1 of 1
Method	Extraction	Chemist ID	<u>Instrument</u>	Analytical Location
EPA 1664A	N/A	784	N/A	1
EPA 200.8	N/A	598	ICP/MS 03	1
SM 2540 D	N/A	1136	N/A	1
SM 4500 H+ B	N/A	1139	PH 1	1



Glossary of Terms and Qualifiers

Work Order: 18-01-1557 Page 1 of 1

Qualifiers	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
Е	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.

- SG The sample extract was subjected to Silica Gel treatment prior to analysis.
- X % Recovery and/or RPD out-of-range.
- Z Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Return to Contents

	- Control of the Cont		Z N N		TOK LAB	NSTRUCTIONS FOR LAB PERSONNEL:				
	Please send analytic results, electronic deliverables	: deliverables	GeoTra	cker EDF	GeoTracker EDF required?	γeε	Ž ×			
CalScience Environmental Lab	and the original chain-or-custody form to: sab@cdimengineering.com	.; 2	Specify	analytic/r	Equis 4-rile EDWEDD required of Specify analytic/prep method and c	ured r 1 and detect	Equis 4-nie EDWEDD required X Yes a No Specify analytic/prep method and detection limit in report.			
Concord, CA 94520	mec@cdimengineering.com		Notify u	s of any a	anomalous	oeaks in GC	Notify us of any anomalous peaks in GC or other scans.			
Phone: 925-689-9022	TO THE PARTY OF TH		Call IIII	nediately	with any q	call immediately with any questions of problems.	nobjerns.			Section 1
Client Contact			Protocol ID/path:	L				-	COC Number:	in de la con-
CDIM ENGINEERING	Project ID: 101-002-LRTC, Ta	Task 1			,				айтары положения дележноство по поставления выполняем выполняем выполняем выполняем выполняем выполняем выполн	
45 POLK STREET, 3RD FLOOR	Sampled by: MEC/L7									
SAN FRANCISCO, CA	(s): 1/22/1								Page of	
(415) 498-0535 PHONE	Analysis Turnaround Time:		aı n		Fe, l					
				-	, Cu,				SDG number:	5533
Job Name; LRTC Annual Storm Water Sampling	Standard				IA -					
Address: Levin Richmond Terminal, Address: 402 Wright Avenue, Richmond, CA 94804	(Specify Days or Hours)		alyte 034 N		Aetals					
Sample Identification	Sample Date Time Matrix	# of Cont.	IIIA AS) Hq	S latoT Oil & O	Total M				Sample Specific Notes:	1
TS1-E-	5280	I	×	×	×				MS/MSD (collect triple sample volume for metals [3 bottles] and double for O&G 14 bottles).	හු
2 TS2-E- 120112		2	×	×	×					T
TS3-E-	5260	5	×	×	×					
4 TS4-E- 190177	7560	17.8	×	×	×					1.
15X-E-DUP- (50)71	7.00	2	×	×	×					T
										1
										1
	ang .	Field Filtered (X):	9.0							
Preservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4=HNO ₃ ; 5=NaOH; 6= Other	=HNO ₃ ; 5=NaOH; 6= Other		-	1,	1,3 1,4	1,4 1	1 1	-	1	
Special Instructions/QC. Requirements & Comments:	<u>ients:</u> Level II Report. Report with reporting limit and method detection limit. Analyze and report only the metals listed above.	reporting limit	ind meth	lod det	ection lir	nit. Analy	ze and repol	t only the met	als listed above.	
Relinquished by: Man, Chantelan	1	e/Time: 122/16 1310	Received		1	À	° Q	Company:	Date/Time: (18 137)	
Contraction of the Contraction o	Company:	11mte: 7 130	Received by	.;. ·		<u>ر</u> `	°	Company:	Date/Time:	Pa
Reinfluished by:	Company: Date/Time	lime:	Received by:	10 M	Jak Jak		0	Company: $\widehat{E}C$	Date/Time: 7/8 1030	ge 22
x = Samples released to a secured, locked area.	ed area.	quarques care point (enconociale pod la especial fictionens)		=/Sam	oles receive	ed from a se	🌶 = gamples received from a secured, locked area	ea	}	2 of :

INSTRUCTIONS FOR LAB PERSONNEL:

Chain of Custody Record

800-322-5555 www.gso.com

NPS



CAL SCIENCE- CONCORD ALAN KEMP 5063 COMMERCIAL CIRCLE CONCORD, CA 94520

Ship To CEL SAMPLE RECEIVING 7440 LINCOLN WAY GARDEN GROVE, CA 92841

COD: \$0.00 Weight: 0 lb(s) Reference: CDIM, P66 **Delivery Instructions:**

Signature Type: STANDARD

Tracking #: 539175691



ORC



GARDEN GROVE

D92845A



Print Date: 1/22/2018 1:24 PM

Package 1 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.



Calscience

WORK ORDER NUMBER: 18-01-155

SAMPLE RECEIPT CHECKLIST

COOLER ___OF ___

CLIENT:	$\overline{\mathcal{D}\mathcal{L}\mathcal{N}(\underline{\underline{\underline{\underline{\underline{L}}\mathcal{N}(\underline{\underline{\underline{L}},\underline{\underline{\underline{L}}})}}}$			DAT	E: <u>01 /</u>	23 1	2018
Thermometer ID: S ☐ Sample(s) or ☐ Sample(s) received:	SC6 (CF: +0.2°C); Toutside temperature coutside temperature coutside temperature c	O°C, not frozen except sedimemperature (w/o CF): 2 - 2 - 2 riteria (PM/APM contacted but received on ice/choerature; placed on ice for transports	°C (w/ CF): y:) illed on same day o		The lank		Sample
•	resent and Intact	☐ Present but Not Intact☐ Present but Not Intact	☐ Not Present ☐ Not Present	□ N/A □ N/A	Checked Checked		670
COC document(s) ☐ Sampling da	(COC) document(s) received complete te □ Sampling time	received with samples □ Matrix □ Number of co	ontainers			No	N/A
Sampler's name in Sample container Sample container(Proper containers Sufficient volume/r	ndicated on COC label(s) consistent w s) intact and in good for analyses request mass for analyses re	ith COCed					
Aqueous sample Proper preservation Unpreserved ac	les for certain analys dual Chlorine □ Dis n chemical(s) noted queous sample(s) re	es received within 15-minute solved Sulfide	holding time Oxygen				
Container(s) for ce ☐ Volatile Orga ☐ Carbon Dioxi	rtain analysis free of nics □ Dissolved G ide (SM 4500) □ Fe	in acceptable rangeheadspace bases (RSK-175) ☐ Dissolverrous Iron (SM 3500) ☐ Hy	red Oxygen (SM 45 vdrogen Sulfide (Ha	00) ach)	. 🗆		
CONTAINER TYP Aqueous: □ VOA □ □ 250AGB □ 250C0 □ 1AGB □ 1AGBna Solid: □ 4ozCGJ □	E: IVOAh	100PJ □ 100PJ na₂ □ 125AGB 2) □ 250RB ☑ 250PB n (pH <u><</u> 2 11AGBs (O&G) ☑ 1PB □ 1PB n □ Sleeve () □ EnCores® (_ e □ PUF □ Other	(Trip Bland) □ 125AGBh □ 125A 2) □ 500AGB □ 500 a (pH12) □) □ TerraCores® (k Lot Number AGBp 🗹 125P AGJ 🗆 500AG	er: B	B znna (p)	9) PB
Container: A = Ambe	er, B = Bottle, C = Clea fered, f = filtered, h = h	r, E = Envelope, G = Glass, J = HCl, n = HNO ₃ , na = NaOH, na_2	Jar, $P = Plastic$, and $P = Plastic$, and $P = Plastic$	Z = Ziploc/Res D ₄ , Labeled	ealable Bag d/Checked	by: <u>10</u>	153



Calscience



WORK ORDER NUMBER: 18-01-1560

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

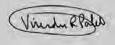
Client Project Name: LRTC Annual Storm Water Sampling / 101-

002-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260



Approved for release on 01/30/2018 by:

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Client Project Name: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task	LRTC Annual Stor	Project Name: LRTC Annual St	າ Water Sampl	ling / 101-002-LRTC,	Task 1
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Work Order Number: 18-01-1560

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4	Client Sample Data. 4.1 EPA 1664A HEM-SGT: Oil and Grease (Aqueous). 4.2 SM 2540 D Total Suspended Solids (Aqueous). 4.3 SM 4500 H+ B pH (Aqueous). 4.4 EPA 200.8 ICP/MS Metals (Aqueous).	6 7 8 9
5	Quality Control Sample Data. 5.1 MS/MSD. 5.2 Sample Duplicate. 5.3 LCS/LCSD.	11 11 13
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Work Order Narrative

Work Order: 18-01-1560 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/23/18. They were assigned to Work Order 18-01-1560.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Sample Summary

Client: CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Work Order:

18-01-1560

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 Project Name:

PO Number:

Date/Time 01/23/18 10:30

Received:

19 Number of

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-I-180122	18-01-1560-1	01/22/18 08:35	5	Aqueous
TS2-I-180122	18-01-1560-2	01/22/18 08:55	5	Aqueous
TS3-I-180122	18-01-1560-3	01/22/18 09:15	5	Aqueous
TS4-I-180122	18-01-1560-4	01/22/18 09:40	4	Aqueous



San Francisco, CA 94102-5260

Detections Summary

Client: CDIM Engineering Work Order: 18-01-1560

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

Received: 01/23/18

Attn: Scott Bourne Page 1 of 1

Client SampleID						
<u>Analyte</u>	<u>Result</u>	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
TS1-I-180122 (18-01-1560-1)						
HEM - SGT: Oil and Grease	1.6		1.0	mg/L	EPA 1664A	N/A
Copper	0.0131		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0669		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.272		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.736		0.0500	mg/L	EPA 200.8	N/A
Iron	1.55		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	121		1.00	mg/L	SM 2540 D	N/A
рН	8.17	BV	0.01	pH units	SM 4500 H+ B	N/A
TS2-I-180122 (18-01-1560-2)						
HEM - SGT: Oil and Grease	1.6		1.0	mg/L	EPA 1664A	N/A
Copper	0.0143		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0292		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.195		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.530		0.0500	mg/L	EPA 200.8	N/A
Iron	1.65		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	196		1.00	mg/L	SM 2540 D	N/A
рН	7.81	BV	0.01	pH units	SM 4500 H+ B	N/A
TS3-I-180122 (18-01-1560-3)						
HEM - SGT: Oil and Grease	1.1		1.0	mg/L	EPA 1664A	N/A
Copper	0.00984		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0346		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.127		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.535		0.0500	mg/L	EPA 200.8	N/A
Iron	1.19		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	9.1		1.0	mg/L	SM 2540 D	N/A
рН	8.14	BV	0.01	pH units	SM 4500 H+ B	N/A
TS4-I-180122 (18-01-1560-4)						
Copper	0.00440		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00960		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0581		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.175		0.0500	mg/L	EPA 200.8	N/A
Iron	0.330		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	14		1.0	mg/L	SM 2540 D	N/A
рН	7.72	BV	0.01	pH units	SM 4500 H+ B	N/A

Subcontracted analyses, if any, are not included in this summary.

^{*} MDL is shown



Analytical Report

CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1560
San Francisco, CA 94102-5260 Preparation: N/A
Method: EPA 1664A

Units:

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180122	18-01-1560-1-C	01/22/18 08:35	Aqueous	N/A	01/25/18	01/25/18 14:10	I0125HEML2
Comment(s): - Results were evaluated t	o the MDL (DL), cond	centrations >= t	o the MDL (DI	L) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	<u>Qualifiers</u>
HEM - SGT: Oil and Grease	1.6		1.0	0.81	1.00		

TS2-I-180122		18-01-1560-2-C	01/22/18 08:55	Aqueous	N/A	01/25/18	01/25/18 14:10	I0125HEML2
Comment(s):	- Results were evaluated to t	he MDL (DL), cond	centrations >=	to the MDL (DI	_) but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	Qualifiers
HEM - SGT: Oil	and Grease	1.6		1.0	0.81	1.00		

TS3-I-180122	18-0	11-1560-3-C	01/22/18 09:15	Aqueous	N/A	01/25/18	01/25/18 14:10	I0125HEML2
Comment(s):	- Results were evaluated to the N	MDL (DL), cond	entrations >= t	o the MDL (DL	but < RL (LC	DQ), if found, are	qualified with a	'J" flag.
<u>Parameter</u>		Resul	<u>lt</u> <u></u>	<u>RL</u>	MDL	<u>DF</u>	<u>Q</u> :	<u>ualifiers</u>
HEM - SGT: Oil	and Grease	1.1		1.0	0.81	1.00		

TS4-I-180122	18-01-1	560-4-C	01/22/18 09:40	Aqueous	N/A	01/25/18	01/25/18 14:10	I0125HEML2
Comment(s):	- Results were evaluated to the MDI	(DL), conc	entrations >= t	the MDL (DL) but < RL	(LOQ), if found, are o	qualified with a "	J" flag.
<u>Parameter</u>		Resul	<u>t</u> <u> </u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>
HEM - SGT: Oil	and Grease	ND	•	1.0	0.81	1.00		

Method Blank	09	9-16-927-86	N/A	Aqueous	N/A	01/25/18	01/25/18 17:30	I0125HEML2
Comment(s):	- Results were evaluated to the	MDL (DL), conce	entrations >= 1	to the MDL (DL	but < RL (LO	Q), if found, are	qualified with a	'J" flag.
<u>Parameter</u>		<u>Result</u>	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> :	<u>ualifiers</u>
HEM - SGT: Oil a	and Grease	ND		1.0	0.81	1.00		



Analytical Report

 CDIM Engineering
 Date Received:
 01/23/18

 45 Polk Street, 3rd floor
 Work Order:
 18-01-1560

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 SM 2540 D

Units: mg/L Storm Water Sampling / 101-002- Page 1 of 1

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180122	18-01-1560-1-E	01/22/18 08:35	Aqueous	N/A	01/23/18	01/23/18 18:00	I0123TSSL1
Comment(s): - Results were evaluated to	o the MDL (DL), cond	centrations >= t	to the MDL (DI	_) but < RL (LO	Q), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>	Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	Qualifiers
Solids, Total Suspended	121		1.00	0.829	1.00		

TS2-I-180122	18-01-156		01/22/18 08:55	Aqueous	N/A	01/23/18	01/23/18 18:00	10123TSSL1
Comment(s):	- Results were evaluated to the MDL (I	DL), conce	ntrations >= to the	ne MDL (DL) but < RL (LOQ), if found, are o	qualified with a "	J" flag.
<u>Parameter</u>		Result	<u>RL</u>		<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>ıalifiers</u>
Solids, Total Su	spended	196	1.0	0	0.829	1.00		

TS3-I-180122	18-01-1560-3-	E 01/22/18 09:15	Aqueous	N/A	01/23/18	01/23/18 18:00	I0123TSSL ²
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >=	to the MDL (DI	_) but < RL (L	OQ), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>	<u>R</u>	<u>tesult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	9	<u>Qualifiers</u>
Solids, Total Su	spended 9	.1	1.0	0.83	1.00		

TS4-I-180122	18-01-1560-4	-D 01/22/18 09:40	Aqueous	N/A	01/23/18	01/23/18 18:00	I0123TSSL1
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >	= to the MDL (DL	_) but < RL (I	LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>0</u>	<u>Qualifiers</u>
Solids, Total Su	spended	14	1.0	0.83	1.00		

Method Blank	099-09-010	-8848 N	/A Aqueous	s N/A	01/23/18	01/23/18 18:00	I0123TSSL1
Comment(s):	- Results were evaluated to the MDL (DI	_), concent	rations >= to the MDL (DL) but < RL	(LOQ), if found, are	qualified with a "	J" flag.
<u>Parameter</u>		Result	<u>RL</u>	MDL	<u>DF</u>	<u>Qı</u>	<u>ualifiers</u>
Solids, Total Sus	spended	ND	1.0	0.83	1.00		

pH units

Page 1 of 1



Analytical Report

01/23/18 **CDIM Engineering** Date Received: 45 Polk Street, 3rd floor Work Order: 18-01-1560 San Francisco, CA 94102-5260 Preparation: N/A Method: SM 4500 H+ B

Units:

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180122		18-01-1560-1-A	01/22/18 08:35	Aqueous	PH 1	01/22/18	01/22/18 18:38	I0123PHD1
Comment(s):	- Results were evaluated to	the MDL (DL), cond	entrations >= t	o the MDL (DI	_) but < RL (LO	Q), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>		Resul	<u>lt</u> <u>!</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	<u>Qualifiers</u>
рН		8.17	(0.01	0.01	1.00	E	3V

TS2-I-180122	18-01-1560-2-A	01/22/18 08:55	Aqueous	PH 1	01/22/18	01/22/18 18:38	I0123PHD1
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >=	to the MDL (DL	but < RL (LC	DQ), if found, are	qualified with a "	J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qı</u>	<u>ıalifiers</u>
рН	7.81		0.01	0.01	1.00	BV	1

TS3-I-180122	18-01-1560-3-A	01/22/18 09:15	Aqueous	PH 1	01/22/18	01/22/18 18:38	I0123PHD1
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >=	to the MDL (DL) but < RL (L	.OQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	MDL	<u>DF</u>	Q	<u>ualifiers</u>
pН	8.14		0.01	0.01	1.00	В	V

TS4-I-180122	18-01-1560-4-A	01/22/18 Ac 09:40	queous PH 1		1/22/18 I0123PHD1 3:38
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >= to the	MDL (DL) but < RL	(LOQ), if found, are qua	lified with a "J" flag.
<u>Parameter</u>	Resu	ılt RL	<u>MDL</u>	<u>DF</u>	Qualifiers
рН	7.72	0.01	0.01	1.00	BV



TS3-I-180122

Analytical Report

CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1560
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8 Units: mg/L

01/29/18

01/30/18

180129LA6

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 2

Client Sample N	Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180122		18-01-1560-1-B	01/22/18 08:35	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:42	180129LA6
Comment(s):	- Results were evaluated t	to the MDL (DL), cond	centrations >=	to the MDL (DL	_) but < RL (LOC), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	Qualifiers
Copper		0.013	31	0.00100	0.000140	1.00		
Lead		0.066	9	0.00100	0.0000898	1.00		
Zinc		0.272	2	0.00500	0.000479	1.00		
Aluminum		0.736	6	0.0500	0.00331	1.00		
Iron		1.55		0.0500	0.00926	1.00		

TS2-I-180122	18-01-1560-2-B	01/22/18 08:55	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:45	180129LA6
Comment(s):	- Results were evaluated to the MDL (DL), co	ncentrations >	= to the MDL (DI	L) but < RL (LOC	(), if found, are	qualified with a "	J" flag.
<u>Parameter</u>	Res	<u>ult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>ualifiers</u>
Copper	0.0	43	0.00100	0.000140	1.00		
Lead	0.02	292	0.00100	0.0000898	1.00		
Zinc	0.19	95	0.00500	0.000479	1.00		
Aluminum	0.53	30	0.0500	0.00331	1.00		
Iron	1.65	5	0.0500	0.00926	1.00		

		09:15				14:47
Comment(s):	- Results were evaluated to the MDL (DL), concentrations >=	= to the MDL (DL)	but < RL (LOQ),	, if found, are qu	alified with a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Copper		0.00984	0.00100	0.000140	1.00	
Lead		0.0346	0.00100	0.0000898	1.00	
Zinc		0.127	0.00500	0.000479	1.00	
Aluminum		0.535	0.0500	0.00331	1.00	
Iron		1.19	0.0500	0.00926	1.00	

Aqueous ICP/MS 03

01/22/18

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

18-01-1560-3-B

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Analytical Report

CDIM Engineering Date Received: 01/23/18 45 Polk Street, 3rd floor Work Order: 18-01-1560 San Francisco, CA 94102-5260 Preparation: N/A

> Method: EPA 200.8 Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Client Sample N	Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-I-180122		18-01-1560-4-B	01/22/18 09:40	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:50	180129LA6
Comment(s):	- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.							
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.004	40	0.00100	0.000140	1.00		
Lead		0.009	060	0.00100	0.0000898	1.00		
Zinc		0.058	31	0.00500	0.000479	1.00		
Aluminum		0.175	;	0.0500	0.00331	1.00		
Iron		0.330)	0.0500	0.00926	1.00		

Method Blank	099-16-094-2184	N/A	Aqueous	ICP/MS 03	01/29/18	01/30/18 14:07	180129LA6
Comment(s):	- Results were evaluated to the MDL (DL), cond	entrations >	= to the MDL (DL) but < RL (LOC), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Q	<u>ualifiers</u>
Copper	ND		0.00100	0.000140	1.00		
Lead	ND		0.00100	0.0000898	1.00		
Zinc	ND		0.00500	0.000479	1.00		
Aluminum	ND		0.0500	0.00331	1.00		
Iron	ND		0.0500	0.00926	1.00		



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Quality Control - Spike/Spike Duplicate

01/23/18 **CDIM Engineering** Date Received: 45 Polk Street, 3rd floor Work Order: 18-01-1560 San Francisco, CA 94102-5260 Preparation: N/A

> Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Quality Control Sample ID Type		Matrix	Ins	trument	Date Prepared	Date Ana	lyzed	MS/MSD Ba	tch Number	
18-01-1557-1	Sample		Aqueous N		4	01/25/18	01/25/18	17:30	I0125HEMS	2
18-01-1557-1	Matrix Spike		Aqueou	s N/A	4	01/25/18	01/25/18	17:30	I0125HEMS	2
18-01-1557-1	Matrix Spike	Duplicate	Aqueou	s N/A	4	01/25/18	01/25/18	17:30	I0125HEMS	2
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	ND	20.00	18.10	90	17.80	89	64-132	2	0-34	







Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1560
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 2 of 2

Quality Control Sample ID	Type		Matrix	Ins	trument	Date Prepared	Date Anal	yzed	MS/MSD Ba	tch Number
TS1-I-180122	Sample		Aqueou	s ICI	P/MS 03	01/29/18	01/30/18	14:42	180129SA6	4
TS1-I-180122	Matrix Spike		Aqueou	s ICI	P/MS 03	01/29/18	01/30/18	14:37	180129SA6	4
TS1-I-180122	Matrix Spike D	uplicate	Aqueou	s ICI	P/MS 03	01/29/18	01/30/18	14:40	180129SA6	4
Parameter		<u>Spike</u> Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	0.01311	0.1000	0.1199	107	0.1167	104	80-120	3	0-20	
Lead	0.06686	0.1000	0.1722	105	0.1690	102	80-120	2	0-20	
Zinc	0.2725	0.1000	0.3706	98	0.3520	80	80-120	5	0-20	
Aluminum	0.7361	0.1000	0.8303	4X	0.8580	4X	80-120	4X	0-20	Q
Iron	1.551	5.100	7.169	110	7.021	107	80-120	2	0-20	





Quality Control - Sample Duplicate

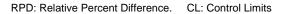
CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1560
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-1354-2	Sample	Aqueous	N/A	01/23/18 00:00	01/23/18 18:00	I0123TSSD2
18-01-1354-2	Sample Duplicate	Aqueous	N/A	01/23/18 00:00	01/23/18 18:00	I0123TSSD2
<u>Parameter</u>		Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total Suspended		1022	1020	0	0-20	





Quality Control - Sample Duplicate

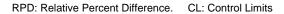
CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1560
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-01-1557-1	Sample	Aqueous	PH 1	01/22/18 00:00	01/22/18 18:38	I0123PHD1
18-01-1557-1	Sample Duplicate	Aqueous	PH 1	01/22/18 00:00	01/22/18 18:38	I0123PHD1
<u>Parameter</u>		Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
рН		8.910	8.970	1	0-25	



01/23/18

18-01-1560



Quality Control - LCS/LCSD

CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Date Received:

Work Order:

Preparation:

Preparation: N/A Method: EPA 1664A

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Da	ate Analyzed	LCS/LCSD Ba	tch Number
099-16-927-86	LCS	Aqı	ieous	N/A	01/25/18	01	/25/18 17:30	I0125HEML2	
099-16-927-86	LCSD	Aqı	ieous	N/A	01/25/18	01	/25/18 17:30	I0125HEML2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. C	L RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	18.10	90	18.50	92	64-132	2	0-34	



Quality Control - LCS/LCSD

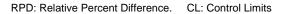
CDIM Engineering Date Received: 01/23/18
45 Polk Street, 3rd floor Work Order: 18-01-1560
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Dat	e Analyzed	LCS/LCSD Ba	atch Number
099-09-010-8848	LCS	Aqı	ieous	N/A	01/23/18	01/2	23/18 18:00	I0123TSSL1	
099-09-010-8848	LCSD	Aqı	ueous	N/A	01/23/18	01/2	23/18 18:00	I0123TSSL1	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0	92.00	92	94.00	94	80-120	2	0-20	



01/23/18

18-01-1560

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Quality Control - LCS

CDIM Engineering Date Received: 45 Polk Street, 3rd floor Work Order: San Francisco, CA 94102-5260 Preparation:

N/A Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре	Matrix	Instrument D	Date Prepared D	Date Analyzed LCS Bar	tch Number
099-16-094-2184	LCS	Aqueous	ICP/MS 03 0	01/29/18 0	1/30/18 15:24 180129	LA6
<u>Parameter</u>		Spike Added	Conc. Recovered	d LCS %Rec.	%Rec. CL	<u>Qualifiers</u>
Copper		0.1000	0.1020	102	80-120	
Lead		0.1000	0.1005	100	80-120	
Zinc		0.1000	0.1037	104	80-120	
Aluminum		0.1000	0.1016	102	80-120	
Iron		5.100	4.854	95	80-120	

RPD: Relative Percent Difference. CL: Control Limits



Sample Analysis Summary Report

Work Order: 18-01-1560	Work Order: 18-01-1560						
Method	Extraction	Chemist ID	Instrument	Analytical Location			
EPA 1664A	N/A	784	N/A	1			
EPA 200.8	N/A	598	ICP/MS 03	1			
SM 2540 D	N/A	1136	N/A	1			
SM 4500 H+ B	N/A	1139	PH 1	1			



Glossary of Terms and Qualifiers

Work Order: 18-01-1560 Page 1 of 1

Qualifiers	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without furthe clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.

- The sample extract was subjected to Silica Gel treatment prior to analysis
- X % Recovery and/or RPD out-of-range.
- Z Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Sample Specific Notes: 030 がまた SDG number: COC Number: ğ Dafe/Time Page 18-01-1560 Special Instructions/QC Requirements & Comments: Level II Report. Report with reporting limit and method detection limit. Analyze and report only the metals listed above. ~ Company: Company: - eceived from a secured, locked area Specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems. 0 0 0 τ... INSTRUCTIONS FOR LAB PERSONNEL: 1 1,3 1,4 1,4 1 Equis 4-file EDWEDD required? GeoTracker EDF required? Total Metals- Al, Cu, Fe, Pb, Zn (EPA 200.8 ICP-MS) × × × × HEW) × × × × Oil & Grease (EPA 1664A SGT-Protocol ID/path: × × × otal Suspended Solids (SM 2540D) Received by: × × × × (SM 4500HB) (Gl boriteM) stylenA Field Filtered (X): 1310 152 Polsol Please send analytic results, electronic deliverables # of Cont. LO S S J. 1/22/19 Date/Time: Analysis Turnaround Time: 101-002-LRTC, Task 1 Sample Matrix and the original chain-of-custody form to: 3 (Specify Days or Hours) 17713 Project Manager: Scott Bourne Standard 0440 Sax Sost 2917 Sample Time 込と mec@cdimengineering.com sab@cdimengineering.com Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Sample date(s): Sample Date 22 COIM Sampled by: Project ID: Company: x = Samples released to a secured, locked area. Chain of Custody Record Sample Identification Address: Levin Richmond Terminal, 402 Wright Avenue, Richmond, CA 94804 PHONE Job Name; LRTC Annual Storm Water Sampling Client Contact 19017 221061 TS2-1- 190121 CalScience Environmental Lab 5063 Commercial Circle, Suite H 45 POLK STREET, 3RD FLOOR 13017 925-689-9022 SAN FRANCISCO, CA CDIM ENGINEERING TS1-1-TS4-I-TS3-I-Concord, CA 94520 (415) 498-0535 Relinquished by LabiD Phone: d 2.



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1560



800-322-5555 www.gso.com

NPS

Ship From

CAL SCIENCE- CONCORD ALAN KEMP 5063 COMMERCIAL CIRCLE CONCORD, CA 94520

Ship To CEL SAMPLE RECEIVING 7440 LINCOLN WAY **GARDEN GROVE, CA 92841**

COD: \$0.00 Weight: 0 lb(s) Reference: CDIM ,ALS Delivery Instructions:

Signature Type: STANDARD

Tracking #: 539175692



GARDEN GROVE

D92845A



Print Date: 1/22/2018 1:24 PM

Package 2 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.



WORK ORDER NUMBER: 18-01-15-00

SAMPLE RECEIPT CHECKLIST

COOLER ___ OF __

CLIENT: CD D/Y	DATE	: <u>01 /</u> 2	<u> 23 1 2</u>	<u>018</u>
TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue) Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): 2 - 1°C (w/ CF): 2 - 3°C (w/ CF): 2 - 3~_°C (To Blank		ample
CUSTODY SEAL: Cooler		Checked Checked	by: <u>l</u>	<u>5</u> 53
SAMPLE CONDITION: Chain-of-Custody (COC) document(s) received with samples COC document(s) received complete Sampling date Sampling time Matrix Number of containers		Yes	No	N/A
□ No analysis requested □ Not relinquished □ No relinquished date □ No relinquished Sampler's name indicated on COC Sample container label(s) consistent with COC Sample container(s) intact and in good condition Proper containers for analyses requested Sufficient volume/mass for analyses requested Samples received within holding time		12 12 12		
Aqueous samples for certain analyses received within 15-minute holding time ph Residual Chlorine Dissolved Sulfide Dissolved Oxygen Proper preservation chemical(s) noted on COC and/or sample container Unpreserved aqueous sample(s) received for certain analyses Volatile Organics D Total Metals Dissolved Metals		P		<u> </u>
Acid/base preserved samples - pH within acceptable range Container(s) for certain analysis free of headspace				
Tedlar™ bag(s) free of condensation (Trip Blank Lot Aqueous: □ VOA □ VOAh □ VOAha₂ □ 100PJ □ 100PJna₂ □ 125AGB □ 125AGBh □ 125AGBp □ 250AGB □ 250CGBs (pH_2), □ 250PBn (pH≤2) □ 500AGB □ 500AGJ □	Number 125PB	r: B	B znna (pH	·19)
□ 1AGB □ 1AGBna₂ □ 1AGBs (pH2) □ 1AGBs (O&G) □ 1PB □ 1PBna (pH12) □				
Preservative: $\mathbf{b} = \text{buffered}$, $\mathbf{f} = \text{filtered}$, $\mathbf{h} = \text{HCl}$, $\mathbf{n} = \text{HNO}_3$, $\mathbf{na} = \text{NaOH}$, $\mathbf{na_2} = \text{Na}_2\text{S}_2\text{O}_3$, $\mathbf{p} = \text{H}_3\text{PO}_4$, $\mathbf{s} = \text{H}_2\text{SO}_4$, $\mathbf{u} = \text{ultra-pure}$, $\mathbf{x} = \text{Na}_2\text{SO}_3 + \text{NaHSO}_4$. $\mathbf{H}_2\text{O}$, $\mathbf{znna} = \text{Zn}$ (CH ₃ CO ₂) ₂ + NaOH	Labeled		l by: <u>/0</u> /	



February 21, 2018

Vista Work Order No. 1800172

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on January 23, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-002-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

Work Order 1800172 Page 1 of 12

Vista Work Order No. 1800172 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the method acceptance criteria are listed in the table below:

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1800172-01	TS2-E-180122	EPA Method 1699	13C12-4,4'-DDE	Н	42.0
B8A0153-BLK1	B8A0153-BLK1	EPA Method 1699	13C12-Endrin Aldehyde	Н	4.86

H = Recovery was outside laboratory acceptance criteria.

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Sample Receipt	11

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800172-01	TS2-E-180122	22-Jan-18 08:50	23-Jan-18 10:33	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L

Vista Project: 1800172 Client Project: 101-002-LRTC, Task 1

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ANALYTICAL RESULTS

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Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8A0153 Lab Sample: B8A0153-BLK1

Sample Size: 1.00 L Date Extracted: 25-Jan-2018 8:49 Date Analyzed: 14-Feb-18 04:19 Column: ZB-50

Analyte Con	ac. (pg/L)	DL EMPC	Qualifiers]	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	5.25		J	IS	13C6-Hexachlorobenzene	58.6	5 - 120	
alpha-BHC	ND	2.32		IS	13C6-alpha-BHC	77.7	32 - 130	
Lindane (gamma-BHC)	ND	3.09		IS	13C6-Lindane (gamma-BHC)	88.1	11 - 120	
beta-BHC	ND	2.85		IS	13C6-beta-BHC	90.4	32 - 130	
delta-BHC	ND	2.05		IS	13C6-delta-BHC	96.5	36 - 137	
Heptachlor	ND	2.17		IS	13C10-Heptachlor	112	5 - 120	
Aldrin	ND	2.55		IS	13C12-Aldrin	94.7	5 - 120	
Oxychlordane	ND	5.76		IS	13C10-Oxychlordane	122	23 - 135	
cis-Heptachlor Epoxide	ND	4.25		IS	13C10-cis-Heptachlor Epoxide	119	27 - 137	
trans-Heptachlor Epoxide	ND	12.1		IS	13C10-trans-Chlordane (gamma)	106	21 - 132	
trans-Chlordane (gamma)	ND	5.18		IS	13C10-trans-Nonachlor	120	14 - 136	
trans-Nonachlor	ND	4.38		IS	13C9-Endosulfan I (alpha)	117	15 - 148	
cis-Chlordane (alpha)	ND	4.08		IS	13C12-2,4'-DDE	88.0	47 - 160	
Endosulfan I (alpha)	ND	7.07		IS	13C12-4,4'-DDE	105	47 - 160	
2,4'-DDE	ND	2.48		IS	13C12-Dieldrin	92.9	40 - 151	
4,4'-DDE	ND	2.42		IS	13C12-Endrin	91.2	35 - 155	
Dieldrin	ND	1.86		IS	13C10-cis-Nonachlor	93.0	36 - 139	
Endrin	ND	3.33		IS	13C9-Endosulfan II (beta)	91.0	5 - 122	
cis-Nonachlor	ND	2.75		IS	13C12-2,4'-DDD	101	5 - 199	
Endosulfan II (beta)	ND	4.78		IS	13C12-2,4'-DDT	101	5 - 199	
2,4'-DDD	ND	5.05		IS	13C12-4,4'-DDD	99.1	5 - 120	
2,4'-DDT	ND	8.02		IS	13C12-4,4'-DDT	94.6	5 - 120	
4,4'-DDD	ND	5.37		IS	13C9-Endosulfan Sulfate	98.1	15 - 148	
4,4'-DDT	ND	8.83		IS	13C12-Methoxychlor	67.6	5 - 120	
Endosulfan Sulfate	ND	4.87		IS	13C10-Mirex	58.1	5 - 120	
4,4'-Methoxychlor	ND	1.36		IS	13C12-Endrin Aldehyde	4.86	15 - 148	Н
Mirex	ND	0.836		IS	13C12-Endrin Ketone	39.2	15 - 148	
Endrin Aldehyde	ND	30.3						
Endrin Ketone	ND	6.39						

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8A0153 Lab Sample: B8A0153-BS1

Sample Size: 1.00 L Date Extracted: 25-Jan-2018 8:49 Date Analyzed: 14-Feb-18 01:03 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
Hexachlorobenzene	979	1000	97.9	50 - 120	IS	13C6-Hexachlorobenzene	62.1	5 - 120
alpha-BHC	960	1000	96.0	50 - 120	IS	13C6-alpha-BHC	80.0	17 - 141
Lindane (gamma-BHC)	985	1000	98.5	50 - 120	IS	13C6-Lindane (gamma-BHC)	82.4	5 - 124
beta-BHC	930	1000	93.0	50 - 120	IS	13C6-beta-BHC	90.7	17 - 141
delta-BHC	918	1000	91.8	50 - 120	IS	13C6-delta-BHC	91.2	16 - 150
Heptachlor	898	1000	89.8	50 - 120	IS	13C10-Heptachlor	107	5 - 128
Aldrin	1000	1000	100	50 - 120	IS	13C12-Aldrin	88.4	5 - 126
Oxychlordane	902	1000	90.2	50 - 120	IS	13C10-Oxychlordane	115	5 - 144
eis-Heptachlor Epoxide	911	1000	91.1	50 - 120	IS	13C10-cis-Heptachlor Epoxide	104	8 - 146
trans-Heptachlor Epoxide	1060	1000	106	50 - 120	IS	13C10-trans-Chlordane (gamma)	96.0	15 - 144
rans-Chlordane (gamma)	1030	1000	103	50 - 120	IS	13C10-trans-Nonachlor	96.7	13 - 149
rans-Nonachlor	942	1000	94.2	50 - 120	IS	13C9-Endosulfan I (alpha)	111	5 - 144
cis-Chlordane (alpha)	805	1000	80.5	50 - 120	IS	13C12-2,4'-DDE	79.9	26 - 169
Endosulfan I (alpha)	931	1000	93.1	50 - 120	IS	13C12-4,4'-DDE	90.3	26 - 169
2,4'-DDE	1000	1000	100	24 - 123	IS	13C12-Dieldrin	88.9	19 - 161
4,4'-DDE	943	1000	94.3	50 - 120	IS	13C12-Endrin	80.7	20 - 157
Dieldrin	948	1000	94.8	50 - 120	IS	13C10-cis-Nonachlor	80.7	17 - 154
Endrin	1090	1000	109	50 - 120	IS	13C9-Endosulfan II (beta)	83.5	5 - 120
eis-Nonachlor	954	1000	95.4	50 - 120	IS	13C12-2,4'-DDD	96.2	14 - 200
Endosulfan II (beta)	979	1000	97.9	5 - 200	IS	13C12-2,4'-DDT	97.7	14 - 200
2,4'-DDD	927	1000	92.7	50 - 120	IS	13C12-4,4'-DDD	95.4	14 - 200
2,4'-DDT	927	1000	92.7	50 - 120	IS	13C12-4,4'-DDT	96.0	13 - 200
4,4'-DDD	920	1000	92.0	42 - 120	IS	13C9-Endosulfan Sulfate	80.4	5 - 144
4,4'-DDT	893	1000	89.3	50 - 120	IS	13C12-Methoxychlor	78.5	8 - 200
Endosulfan Sulfate	1010	1000	101	50 - 120	IS	13C10-Mirex	66.8	5 - 138
1,4'-Methoxychlor	927	1000	92.7	50 - 120	IS	13C12-Endrin Aldehyde	8.88	5 - 144
Mirex	926	1000	92.6	50 - 120	IS	13C12-Endrin Ketone	50.4	5 - 144
Endrin Aldehyde	1290	1000	129	50 - 134				
Endrin Ketone	966	1000	96.6	50 - 134				

LCL-UCL - Lower control limit - upper control limit

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Sample ID: TS2-	E-180122							EPA Met	hod 1699
Client Data		Sample Data		Labo	ratory	Data			
Name: CDIM	1 Engineering	Matrix:	Water	Lab	Samp	le: 1800172-01	Date Received:	23-Jan-2018	3 10:33
	02-LRTC, Task 1	Sample Size:	1.04 L	QC	Batch:	B8A0153	Date Extracted:	25-Jan-2018	8 8:49
Date Collected: 22-Jan	n-2018 8:50			Dat	e Analy	yzed: 15-Feb-18 02:46 Column	: ZB-50		
						20-Feb-18 11:25 Column	: ZB-50		
Analyte Conc.	. (pg/L) DI	L EMPC	Qua	lifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	40.2		E	3	IS	13C6-Hexachlorobenzene	67.6	5 - 120	
alpha-BHC	105				IS	13C6-alpha-BHC	91.5	32 - 130	
Lindane (gamma-BHC)	169				IS	13C6-Lindane (gamma-BHC)	81.7	11 - 120	
beta-BHC	526				IS	13C6-beta-BHC	81.4	32 - 130	
delta-BHC	318				IS	13C6-delta-BHC	73.0	36 - 137	
Heptachlor	ND 15.	4	Ε)	IS	13C10-Heptachlor	82.9	5 - 120	D
Aldrin	8530				IS	13C12-Aldrin	40.9	5 - 120	
Oxychlordane	ND 28	5			IS	13C10-Oxychlordane	45.0	23 - 135	
cis-Heptachlor Epoxide	ND 22	2			IS	13C10-cis-Heptachlor Epoxide	45.8	27 - 137	
trans-Heptachlor Epoxide	ND 54	4			IS	13C10-trans-Chlordane (gamma)) 99.4	21 - 132	D
trans-Chlordane (gamma)	6710		Γ)	IS	13C10-trans-Nonachlor	32.6	14 - 136	
trans-Nonachlor	991				IS	13C9-Endosulfan I (alpha)	40.3	15 - 148	
cis-Chlordane (alpha)	2460				IS	13C12-2,4'-DDE	53.8	47 - 160	
Endosulfan I (alpha)	ND 40	2			IS	13C12-4,4'-DDE	42.0	47 - 160	Н
2,4'-DDE	140				IS	13C12-Dieldrin	54.1	40 - 151	
4,4'-DDE	2680				IS	13C12-Endrin	58.0	35 - 155	
Dieldrin	5410				IS	13C10-cis-Nonachlor	39.1	36 - 139	
Endrin	1440				IS	13C9-Endosulfan II (beta)	40.7	5 - 122	
cis-Nonachlor	ND 26	1			IS	13C12-2,4'-DDD	70.2	5 - 199	
Endosulfan II (beta)	ND 36	7			IS	13C12-2,4'-DDT	68.6	5 - 199	
2,4'-DDD	4160				IS	13C12-4,4'-DDD	62.6	5 - 120	
2,4'-DDT	493				IS	13C12-4,4'-DDT	57.7	5 - 120	
4,4'-DDD	9110				IS	13C9-Endosulfan Sulfate	32.2	15 - 148	
4,4'-DDT	2310				IS	13C12-Methoxychlor	32.7	5 - 120	
Endosulfan Sulfate	ND 56	8			IS	13C10-Mirex	25.6	5 - 120	
4,4'-Methoxychlor	ND 11	0			IS	13C12-Endrin Aldehyde	34.7	15 - 148	
Mirex	ND 57.	.6			IS	13C12-Endrin Ketone	34.3	15 - 148	
Endrin Aldehyde	ND 25	2							
Endrin Ketone	3680								
DI Comple appoifs estimated						T 111 2 111 2			

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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DATA QUALIFIERS & ABBREVIATIONS

В This compound was also detected in the method blank. D **Dilution** \mathbf{E} The associated compound concentration exceeded the calibration range of the instrument. Н Recovery and/or RPD was outside laboratory acceptance limits. **Chemical Interference** I J The amount detected is below the Reporting Limit/LOQ. \mathbf{M} **Estimated Maximum Possible Concentration.** (CA Region 2 projects only) **See Cover Letter** Conc. Concentration NA Not applicable ND **Not Detected** TEQ **Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Not Detected (specific projects only)

 \mathbf{U}

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CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

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1800172

Chain of Custody Record

Vista Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 673-1520 Please send analytic results, electronic deliverables and the original chain-of-custody form to: sab@cdimengineering.com mec@cdimengineering.com

INSTRUCTIONS FOR LAB PERSONNEL:

Specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems.

4.20

	Client Contact	Project Manager: S	Scott Bour	ne		Pro	tocol IE	Interdately with any questions or problems. //path:	COC Number:
CDIM ENG	SINEERING	Project ID: 1	01-002-LR	TC, Task 1					
45 POLK	STREET, 3RD FLOOR	Sampled by:	MEZ	112					1
SAN FRAI	NCISCO, CA	Sample date(s):		2/18		1_			Page of
(415) 498-	0535 PHONE	Analysis	Turnaro	und Tim	e:	od ID	(66		
Job Name	: LRTC Annual Storm Water Sampling		Standard	1		Meth	PA 16		SDG number:
Address:	Levin Richmond Terminal, 402 Wright Avenue, Richmond, CA 94804	(Spec	ify Days or	Hours)		Analyte (Method ID)	des (E		
Lab ID	Sample Identification	Sample Date	Sample Time	Sample Matrix	# of Cont.	Ank	Pesticides (EPA 1699)		Sample Specific Notes:
	TS2-E-190122	1/22/18	0850	W	3		Х		
-	1,	-('							
				1					
						H			
						ä			
				Field I	Filtered (X):			
Pr	eservation Used: 1= Ice, 2= HCI; 3= H ₂ SO ₄ ;	4=HNO ₃ ; 5=NaOH; 6= Othe	r				1		
Special In	structions/QC Requirements & Comm	nents: Level II Report	t. Report	with repor	ting limit	and	met	nod detection limit. Please use agreed upon analyte list for EPA 1699	
Allen .	Ple	'se composit	e 3	11 3	Con	~t	anh	ers	
Relinquishe	d by: Zhu D	Company: Company:	secting	Date/Time:	11:357	Rec	ceivéd't	Dy: Company: VAL	Date/Time: 1 01/23/18 1035
Relinquishe	d by:	Company:		Date/Time:		Rec	eived i	Gompany:	Date/Time:
Relinquishe	d by;	Company:		Date/Time:		Rec	eived b	- Indiana	Date/Time:
	y = Samples released to a secured lock	U I						0	

Samples received from a secured, locked area



Sample Log-in Checklist

	Date/Time	Initials:		ocation:	100	2				
Samples Arrival:	01/23/18 1033		Initials: Locat			on: WR-7- Rack:_NA				
7,775.7.3117	0/10/18 105	7000		helf/Rack:	15		_			
Logged In:	Date/Time 01/23/18 1114	Initials:	1	Location: WR-7 Shelf/Rack: A7						
Delivered By:	elivered By: FedEx UPS On Trac GSO DHL Ha					Oth	ier			
Preservation:	Dry Ice		None							
Temp °C:		e: 1035 be used: Yes	I Note	hermomet	er ID:	IR-4	NA			
Adequate Samo	ele Volume Received?	A. A.			V	110	377			
Holding Time A		1401			1					
Shipping Contai					1					
Shipping Custoo)		1			
	nentation Present?				1					
Airbill	Trk# 7894	2566	9578	3	V					
Sample Contain										
Sample Custody	/ Seals Intact?				,		1			

Comments:

ID.: LR - SLC

Preservation Documented:

Shipping Container

Rev No.: 0

COC Anomaly/Sample Acceptance Form completed?

If Chlorinated or Drinking Water Samples, Acceptable Preservation?

 $Na_2S_2O_3$

Vista

Rev Date: 05/18/2017

Trizma

Client

None

Retain

Page: 1 of 1

No

Dispose

Yes

Return



February 16, 2018

Vista Work Order No. 1800171

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on January 23, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-002-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

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Vista Work Order No. 1800171 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

As directed, the contents of the three sample containers were composited prior to taking an aliquot for extraction. The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column. The chemist noted that the extract was colored at final volume, indicating the presence of interferences.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the method acceptance criteria are listed in the table below:

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1800171-01	TS2-I-180122	EPA Method 1699	13C12-2,4'-DDE	Н	30.5
1800171-01	TS2-I-180122	EPA Method 1699	13C12-4,4'-DDE	Н	22.4
1800171-01	TS2-I-180122	EPA Method 1699	13C12-Dieldrin	Н	27.7
1800171-01	TS2-I-180122	EPA Method 1699	13C12-Endrin	Н	29.1
1800171-01	TS2-I-180122	EPA Method 1699	13C10-cis-Nonachlor	Н	19.0
1800171-01	TS2-I-180122	EPA Method 1699	13C12-Endrin Ketone	Н	14.9
B8A0153-BLK1	B8A0153-BLK1	EPA Method 1699	13C12-Endrin Aldehyde	Н	4.86

H = Recovery was outside laboratory acceptance criteria.

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Qualifiers	9
Certifications	10
Sample Receipt	11

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800171-01	TS2-I-180122	22-Jan-18 08:55	23-Jan-18 10:33	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L

Vista Project: 1800171 Client Project: 101-002-LRTC, Task 1

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ANALYTICAL RESULTS

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Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8A0153 Lab Sample: B8A0153-BLK1

Sample Size: 1.00 L Date Extracted: 25-Jan-2018 8:49 Date Analyzed: 14-Feb-18 04:19 Column: ZB-50

Analyte C	Conc. (pg/L)	DL	EMPC	Qualifiers]	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	5.25			J	IS	13C6-Hexachlorobenzene	58.6	5 - 120	
alpha-BHC	ND	2.32			IS	13C6-alpha-BHC	77.7	32 - 130	
Lindane (gamma-BHC)	ND	3.09			IS	13C6-Lindane (gamma-BHC)	88.1	11 - 120	
beta-BHC	ND	2.85			IS	13C6-beta-BHC	90.4	32 - 130	
delta-BHC	ND	2.05			IS	13C6-delta-BHC	96.5	36 - 137	
Heptachlor	ND	2.17			IS	13C10-Heptachlor	112	5 - 120	
Aldrin	ND	2.55			IS	13C12-Aldrin	94.7	5 - 120	
Oxychlordane	ND	5.76			IS	13C10-Oxychlordane	122	23 - 135	
cis-Heptachlor Epoxide	ND	4.25			IS	13C10-cis-Heptachlor Epoxide	119	27 - 137	
trans-Heptachlor Epoxid	e ND	12.1			IS	13C10-trans-Chlordane (gamma)	106	21 - 132	
trans-Chlordane (gamma) ND	5.18			IS	13C10-trans-Nonachlor	120	14 - 136	
trans-Nonachlor	ND	4.38			IS	13C9-Endosulfan I (alpha)	117	15 - 148	
cis-Chlordane (alpha)	ND	4.08			IS	13C12-2,4'-DDE	88.0	47 - 160	
Endosulfan I (alpha)	ND	7.07			IS	13C12-4,4'-DDE	105	47 - 160	
2,4'-DDE	ND	2.48			IS	13C12-Dieldrin	92.9	40 - 151	
4,4'-DDE	ND	2.42			IS	13C12-Endrin	91.2	35 - 155	
Dieldrin	ND	1.86			IS	13C10-cis-Nonachlor	93.0	36 - 139	
Endrin	ND	3.33			IS	13C9-Endosulfan II (beta)	91.0	5 - 122	
cis-Nonachlor	ND	2.75			IS	13C12-2,4'-DDD	101	5 - 199	
Endosulfan II (beta)	ND	4.78			IS	13C12-2,4'-DDT	101	5 - 199	
2,4'-DDD	ND	5.05			IS	13C12-4,4'-DDD	99.1	5 - 120	
2,4'-DDT	ND	8.02			IS	13C12-4,4'-DDT	94.6	5 - 120	
4,4'-DDD	ND	5.37			IS	13C9-Endosulfan Sulfate	98.1	15 - 148	
4,4'-DDT	ND	8.83			IS	13C12-Methoxychlor	67.6	5 - 120	
Endosulfan Sulfate	ND	4.87			IS	13C10-Mirex	58.1	5 - 120	
4,4'-Methoxychlor	ND	1.36			IS	13C12-Endrin Aldehyde	4.86	15 - 148	Н
Mirex	ND	0.836			IS	13C12-Endrin Ketone	39.2	15 - 148	
Endrin Aldehyde	ND	30.3							
Endrin Ketone	ND	6.39							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8A0153 Lab Sample: B8A0153-BS1

Sample Size: 1.00 L Date Extracted: 25-Jan-2018 8:49 Date Analyzed: 14-Feb-18 01:03 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
Hexachlorobenzene	979	1000	97.9	50 - 120	IS	13C6-Hexachlorobenzene	62.1	5 - 120
alpha-BHC	960	1000	96.0	50 - 120	IS	13C6-alpha-BHC	80.0	17 - 141
Lindane (gamma-BHC)	985	1000	98.5	50 - 120	IS	13C6-Lindane (gamma-BHC)	82.4	5 - 124
beta-BHC	930	1000	93.0	50 - 120	IS	13C6-beta-BHC	90.7	17 - 141
delta-BHC	918	1000	91.8	50 - 120	IS	13C6-delta-BHC	91.2	16 - 150
Heptachlor	898	1000	89.8	50 - 120	IS	13C10-Heptachlor	107	5 - 128
Aldrin	1000	1000	100	50 - 120	IS	13C12-Aldrin	88.4	5 - 126
Oxychlordane	902	1000	90.2	50 - 120	IS	13C10-Oxychlordane	115	5 - 144
cis-Heptachlor Epoxide	911	1000	91.1	50 - 120	IS	13C10-cis-Heptachlor Epoxide	104	8 - 146
trans-Heptachlor Epoxide	1060	1000	106	50 - 120	IS	13C10-trans-Chlordane (gamma)	96.0	15 - 144
trans-Chlordane (gamma)	1030	1000	103	50 - 120	IS	13C10-trans-Nonachlor	96.7	13 - 149
trans-Nonachlor	942	1000	94.2	50 - 120	IS	13C9-Endosulfan I (alpha)	111	5 - 144
cis-Chlordane (alpha)	805	1000	80.5	50 - 120	IS	13C12-2,4'-DDE	79.9	26 - 169
Endosulfan I (alpha)	931	1000	93.1	50 - 120	IS	13C12-4,4'-DDE	90.3	26 - 169
2,4'-DDE	1000	1000	100	24 - 123	IS	13C12-Dieldrin	88.9	19 - 161
4,4'-DDE	943	1000	94.3	50 - 120	IS	13C12-Endrin	80.7	20 - 157
Dieldrin	948	1000	94.8	50 - 120	IS	13C10-cis-Nonachlor	80.7	17 - 154
Endrin	1090	1000	109	50 - 120	IS	13C9-Endosulfan II (beta)	83.5	5 - 120
cis-Nonachlor	954	1000	95.4	50 - 120	IS	13C12-2,4'-DDD	96.2	14 - 200
Endosulfan II (beta)	979	1000	97.9	5 - 200	IS	13C12-2,4'-DDT	97.7	14 - 200
2,4'-DDD	927	1000	92.7	50 - 120	IS	13C12-4,4'-DDD	95.4	14 - 200
2,4'-DDT	927	1000	92.7	50 - 120	IS	13C12-4,4'-DDT	96.0	13 - 200
4,4'-DDD	920	1000	92.0	42 - 120	IS	13C9-Endosulfan Sulfate	80.4	5 - 144
4,4'-DDT	893	1000	89.3	50 - 120	IS	13C12-Methoxychlor	78.5	8 - 200
Endosulfan Sulfate	1010	1000	101	50 - 120	IS	13C10-Mirex	66.8	5 - 138
4,4'-Methoxychlor	927	1000	92.7	50 - 120	IS	13C12-Endrin Aldehyde	8.88	5 - 144
Mirex	926	1000	92.6	50 - 120	IS	13C12-Endrin Ketone	50.4	5 - 144
Endrin Aldehyde	1290	1000	129	50 - 134				
Endrin Ketone	966	1000	96.6	50 - 134				

LCL-UCL - Lower control limit - upper control limit

Work Order 1800171 Page 7 of 12

Sample ID: TS2-I	-180122							EPA Met	hod 1699
Client Data		Sample Data		Labo	oratory	Data			
Name: CDIM	Engineering	Matrix:	Water	Lab	Sampl		Date Received:	23-Jan-2018	3 10:33
Project: 101-00	02-LRTC, Task 1	Sample Size:	0.998 L	QC	Batch:	B8A0153	Date Extracted:	25-Jan-2018	8 8:49
Date Collected: 22-Jan	-2018 8:55			Dat	te Analy	zed: 15-Feb-18 01:57 Column	: ZB-50		
						15-Feb-18 23:56 Column	: ZB-50		
Analyte Conc.	(pg/L) DI	EMPC	Qua	lifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	1910		I	В	IS	13C6-Hexachlorobenzene	103	5 - 120	
alpha-BHC	183				IS	13C6-alpha-BHC	65.2	32 - 130	
Lindane (gamma-BHC)	223				IS	13C6-Lindane (gamma-BHC)	115	11 - 120	
beta-BHC	639				IS	13C6-beta-BHC	60.3	32 - 130	
delta-BHC	495				IS	13C6-delta-BHC	62.7	36 - 137	
Heptachlor	ND 32.	7			IS	13C10-Heptachlor	77.8	5 - 120	
Aldrin	7600				IS	13C12-Aldrin	55.0	5 - 120	
Oxychlordane	4830				IS	13C10-Oxychlordane	44.8	23 - 135	
cis-Heptachlor Epoxide	ND 357	7			IS	13C10-cis-Heptachlor Epoxide	42.4	27 - 137	
trans-Heptachlor Epoxide	ND 873	3			IS	13C10-trans-Chlordane (gamma) 59.5	21 - 132	D
trans-Chlordane (gamma)	6840		I	D	IS	13C10-trans-Nonachlor	28.4	14 - 136	
trans-Nonachlor	1800				IS	13C9-Endosulfan I (alpha)	41.7	15 - 148	
cis-Chlordane (alpha)	3830				IS	13C12-2,4'-DDE	30.5	47 - 160	Н
Endosulfan I (alpha)	ND 624	1			IS	13C12-4,4'-DDE	22.4	47 - 160	Н
2,4'-DDE	1120				IS	13C12-Dieldrin	27.7	40 - 151	Н
4,4'-DDE	17500				IS	13C12-Endrin	29.1	35 - 155	Н
Dieldrin	7610				IS	13C10-cis-Nonachlor	19.0	36 - 139	Н
Endrin	2110				IS	13C9-Endosulfan II (beta)	23.8	5 - 122	
cis-Nonachlor	ND 977	7			IS	13C12-2,4'-DDD	37.7	5 - 199	
Endosulfan II (beta)	ND 147	0			IS	13C12-2,4'-DDT	26.1	5 - 199	
2,4'-DDD	8990				IS	13C12-4,4'-DDD	25.8	5 - 120	
2,4'-DDT	7300				IS	13C12-4,4'-DDT	28.6	5 - 120	D
4,4'-DDD	18700				IS	13C9-Endosulfan Sulfate	15.5	15 - 148	
4,4'-DDT	27400		I	D	IS	13C12-Methoxychlor	17.0	5 - 120	
Endosulfan Sulfate	ND 219	0			IS	13C10-Mirex	13.0	5 - 120	
4,4'-Methoxychlor	ND 209	0			IS	13C12-Endrin Aldehyde	15.7	15 - 148	
Mirex	ND 355	5			IS	13C12-Endrin Ketone	14.9	15 - 148	Н
Endrin Aldehyde	ND 841								
Endrin Ketone	ND 190	0							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Work Order 1800171 Page 8 of 12

DATA QUALIFIERS & ABBREVIATIONS

В This compound was also detected in the method blank. D **Dilution** \mathbf{E} The associated compound concentration exceeded the calibration range of the instrument. Н Recovery and/or RPD was outside laboratory acceptance limits. **Chemical Interference** I J The amount detected is below the Reporting Limit/LOQ. \mathbf{M} **Estimated Maximum Possible Concentration.** (CA Region 2 projects only) **See Cover Letter** Conc. Concentration NA Not applicable ND **Not Detected** TEQ **Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Not Detected (specific projects only)

 \mathbf{U}

Work Order 1800171 Page 9 of 12

CERTIFICATIONS

Accrediting Authority	Certificate Number						
Alaska Department of Environmental Conservation	17-013						
Arkansas Department of Environmental Quality	17-015-0						
California Department of Health – ELAP	2892						
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01						
Florida Department of Health	E87777-18						
Hawaii Department of Health	N/A						
Louisiana Department of Environmental Quality	01977						
Maine Department of Health	2016026						
Minnesota Department of Health	1322288						
New Hampshire Environmental Accreditation Program	207717						
New Jersey Department of Environmental Protection	CA003						
New York Department of Health	11411						
Oregon Laboratory Accreditation Program	4042-008						
Pennsylvania Department of Environmental Protection	014						
Texas Commission on Environmental Quality	T104704189-17-8						
Virginia Department of General Services	9077						
Washington Department of Ecology	C584						
Wisconsin Department of Natural Resources	998036160						

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

Work Order 1800171 Page 10 of 12

Chain of Custody Record							UCTION			RSON	VEL:				De	01	11					
Vista Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 673-1520	Please send analy and the original ch- sab@cdimenginee mec@cdimenginee	ain-of-custod ring.com		liverables		Equis Specify Notify to	4-file EI analytic us of any mediately	prep me anomalo	require thod a us pea	nd dete aks in G	x Y ction li C or o	ther sca	port.		180	4.	2°C					
Client Contact	Project Manager:	Scott Bou	rne		Pro	otocol ID/	/path:			. 16									coc	Number:		7
CDIM ENGINEERING	Project ID:	101-002-LF	RTC, Task 1	1	18				T	-					1							
45 POLK STREET, 3RD FLOOR	Sampled by:	MECI	17												/			t	4		1	1
SAN FRANCISCO, CA	Sample date(s):	1/2	2/18		1_									- 14		1			Page	of		
(415) 498-0535 PHONE	Analysi	s Turnard	ound Tim	ie:	Analyte (Method ID)	1699)												-	en	G number		
Job Name; LRTC Annual Storm Water Sampling		Standar	rd		Met	PA								37		1		H	30	3 Humber		4
Address: Levin Richmond Terminal, 402 Wright Avenue, Richmond, CA 94804	(Sp	ecify Days o			alyte (Pesticides (EPA								1								
Lab ID Sample Identification	Sample Date	Sample Time	Sample Matrix	# of Cont.	An	Pestic				1			19						Sample	Specific N	lotes:	
TS2-I- 180172	1/47/19	9685	M	3		Х		44	Will				H							H# H		
	-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Mar de			1						7.0	1						1		-		1 10
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			Field	Filtered	(%)	\vdash	4	+		1												1
Preservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ;	4-11110 - 5-11-011-5-04		rieiu	rillereu	(^):		-	+	114	4			-					_				1
		4.0. 6.0				1			10						1							1
Special Instructions/QC Requirements & Com	nents: Level II Repo	ort. Report	with repor	rting limit	tand	meth	od dete	ection	imit.	Pleas	e use	agree	d upo	n anal	te list	for EP	A 1699	9.				
A A	Reare Cen	posite	50	ich tan	(00	vi		à	Y													
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Relinquished by:	Company:		Date/Time:		Red	ceived by	<i>f.</i>	-		-			0	ompany				0	Date/Time:			
x = Samples released to a secured, loc	ked area.				_		= Samp	oles rece	ved fro	om a se	cured,							-1				1

Work Order 1800171 Page 11 of 12



Sample Log-in Checklist

Samples Arrival:	Date/Time 01/23/18 10	Initials:					Location: WR-2- Shelf/Rack:_NA						
Logged In:	Date/Time Initials: Location							1: WR-2 1ck: A2					
Delivered By: (But Fodey LIBS On Trac GSO DHI Hai						Han Delive	d	Other				
Preservation:	(Ice) Blue Ice Dry Ice								None				
Temp °C: ☐	(corrected)	Tobe us	seu:	Yes I	AOLE			YES	NO	NA			
Adequate Sample	le Volume Received	?	A	B C	/	111111		V					
Holding Time Ac	V-17-1-2-4-			101				V					
Shipping Contain	P. 30 V. 100 V.							1					
Shipping Custod										1			
Shipping Docum	entation Present?												
Airbill	Trk# 789	14	25	66	957	13		V					
Sample Containe	er Intact?			,				V		/			
Sample Custody	Seals Intact?							1		1			

Comments:

ID.: LR - SLC

Preservation Documented:

Shipping Container

Rev No.: 0

Chain of Custody / Sample Documentation Present?

COC Anomaly/Sample Acceptance Form completed?

If Chlorinated or Drinking Water Samples, Acceptable Preservation?

Na₂S₂O₃

Vista

Rev Date: 05/18/2017

Trizma

Client

None

Retain

Page: 1 of 1

Yes

Return

No

Dispose



Calscience



WORK ORDER NUMBER: 18-03-0136

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

Client Project Name: LRTC Annual Storm Water Sampling / 101-

002-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Vinda Polis

Approved for release on 03/12/2018 by:

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: LRTC Annual Storm Water Sampling / 101-002-LRTC, Tas	sk 1
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Work Order Number: 18-03-0136

1	Work Order Narrative	3
2	Sample Summary	4
3	Detections Summary	5
4	Client Sample Data. 4.1 EPA 1664A HEM-SGT: Oil and Grease (Aqueous). 4.2 SM 2540 D Total Suspended Solids (Aqueous). 4.3 SM 4500 H+ B pH (Aqueous). 4.4 EPA 200.8 ICP/MS Metals (Aqueous).	7 7 8 9 10
5	Quality Control Sample Data. 5.1 MS/MSD. 5.2 Sample Duplicate. 5.3 LCS/LCSD.	12 12 14 16
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Work Order Narrative

Work Order: 18-03-0136 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/02/18. They were assigned to Work Order 18-03-0136.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.





San Francisco, CA 94102-5260

Sample Summary

Client: CDIM Engineering Work Order: 18-03-0136

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

PO Number:

Date/Time 03/02/18 09:50

Received:

24 Number of

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-E-180301	18-03-0136-1	03/01/18 08:41	8	Aqueous
TS2-E-180301	18-03-0136-2	03/01/18 09:08	4	Aqueous
TS3-E-180301	18-03-0136-3	03/01/18 09:19	4	Aqueous
TS4-E-180301	18-03-0136-4	03/01/18 09:38	4	Aqueous
TSX-E-DUP-180301	18-03-0136-5	03/01/18 09:40	4	Aqueous



Detections Summary

Client: CDIM Engineering Work Order: 18-03-0136

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

San Francisco, CA 94102-5260 03/02/18 Received:

Attn: Scott Bourne Page 1 of 2

Client SampleID						
Analyte	<u>Result</u>	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
TS1-E-180301 (18-03-0136-1)						
Copper	0.00192		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00544		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0829	В	0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0717	D	0.0500	mg/L	EPA 200.8	N/A
Iron	0.138		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	16		1.0	mg/L	SM 2540 D	N/A
рН	7.15	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS2-E-180301 (18-03-0136-2)	7.10	DV,DO	0.01	pri unito	OW 4000 TH B	IVA
Copper	0.0102		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00149		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0840	В	0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0164	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0171	J	0.00926*	mg/L	EPA 200.8	N/A
Solids, Total Suspended	1.9	•	1.0	mg/L	SM 2540 D	N/A
pH	7.25	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS3-E-180301 (18-03-0136-3)	7.20	51,50	0.01	priamo	O.W. 1000 T.W. B	
Copper	0.00160		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00114		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0357	В	0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0156	J	0.00331*	mg/L	EPA 200.8	N/A
Iron	0.0167	J	0.00926*	mg/L	EPA 200.8	N/A
pH	7.44	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS4-E-180301 (18-03-0136-4)		21,20	0.01	p ao	5 1000 1 2	
Copper	0.00252		0.00100	mg/L	EPA 200.8	N/A
Lead	0.000850	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0903	В	0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0655		0.0500	mg/L	EPA 200.8	N/A
Iron	0.0705		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	3.2		1.0	mg/L	SM 2540 D	N/A
pH	7.06	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
ľ		,		,		• •

^{*} MDL is shown



Detections Summary

Client: CDIM Engineering

Work Order:

18-03-0136

45 Polk Street, 3rd floor

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 Project Name:

San Francisco, CA 94102-5260

Received: 03/02/18

Page 2 of 2 Attn: Scott Bourne

Client SampleID						
<u>Analyte</u>	Result	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
TOV F DUD 400004 (40 00 0400 F)						
TSX-E-DUP-180301 (18-03-0136-5)						
Copper	0.00387		0.00100	mg/L	EPA 200.8	N/A
Lead	0.000964	J	0.0000898*	mg/L	EPA 200.8	N/A
Zinc	0.0440	В	0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.0688		0.0500	mg/L	EPA 200.8	N/A
Iron	0.368		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	4.1		1.0	mg/L	SM 2540 D	N/A
рН	7.31	BV,BU	0.01	pH units	SM 4500 H+ B	N/A

Subcontracted analyses, if any, are not included in this summary.

^{*} MDL is shown



Analytical Report

CDIM Engineering Date Received: 03/02/18 45 Polk Street, 3rd floor Work Order: 18-03-0136 San Francisco, CA 94102-5260 Preparation: N/A Method: EPA 1664A Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180301	18-03-0136-1-D	03/01/18 08:41	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s): - Results were evaluated to	the MDL (DL), cond	centrations >= t	o the MDL (DI) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u>Resu</u>	<u>lt</u> .	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
HEM - SGT: Oil and Grease	ND		1.0	0.81	1.00		

TS2-E-180301		18-03-0136-2-B	03/01/18 09:08	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s):	- Results were evaluated to	the MDL (DL), cond	centrations >= t	to the MDL (DL	_) but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resu</u>	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
HEM - SGT: Oil	and Grease	ND		1.0	0.81	1.00		

TS3-E-180301	18-03-0		3/01/18 A 9:19	queous N/A	A 03/09/	18 03/09/18 14:45	I0309HEML2
Comment(s):	- Results were evaluated to the MDL	(DL), concen	trations >= to the	MDL (DL) bu	t < RL (LOQ), if four	nd, are qualified with	a "J" flag.
<u>Parameter</u>		Result	<u>RL</u>		<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
HEM - SGT: Oil	and Grease	ND	1.0		0.81	1.00	

TS4-E-180301	18-03-0136	6-4-B 03/01/18 09:38	Aqueous	N/A	03/09/18	03/09/18 I 14:45	0309HEML2
Comment(s):	- Results were evaluated to the MDL (D	L), concentrations	>= to the MDL (DI	L) but < RL (I	_OQ), if found, are	qualified with a "J"	flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	MDL	<u>DF</u>	<u>Qual</u>	<u>ifiers</u>
HEM - SGT: Oil	and Grease	ND	1.0	0.81	1.00		

TSX-E-DUP-18	30301	18-03-0136-5-B	03/01/18 09:40	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s):	- Results were evaluated	to the MDL (DL), cond	centrations >=	to the MDL (DI) but < RL	(LOQ), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>		<u>Resu</u>	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	<u>Qualifiers</u>
HEM - SGT: Oi	I and Grease	ND		1.0	0.81	1.00		

Method Blank	099-16-927-	98 N/A	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s):	- Results were evaluated to the MDL (DL	.), concentration	s >= to the MDL (DL	but < RL (L	OQ), if found, are	qualified with a "	J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> ı	<u>ualifiers</u>
HEM - SGT: Oil	and Grease	ND	1.0	0.81	1.00		

RL: Reporting Limit. MDL: Method Detection Limit. DF: Dilution Factor.



TO 4 E 400004

Solids, Total Suspended

Solids, Total Suspended

Analytical Report

 CDIM Engineering
 Date Received:
 03/02/18

 45 Polk Street, 3rd floor
 Work Order:
 18-03-0136

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 SM 2540 D

 Units:
 mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180301	18-03-0136-1-A	03/01/18 08:41	Aqueous	N/A	03/05/18	03/05/18 16:00	I0305TSSL1
Comment(s): - Results were evaluated to	the MDL (DL), conc	entrations >= t	o the MDL (DL) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u>Resul</u>	<u>t</u> .	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Solids, Total Suspended	16		1.0	0.83	1.00		

TS2-E-180301	18-03-0136-2-A 03/0 09:	01/18 Aqueoเ 08	us N/A	03/05/18	03/05/18 16:00	10305TSSL1			
Comment(s): - Results were evaluat									
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>			
Solids, Total Suspended	1.9	1.0	0.83	1.00					

TS3-E-180301	18-03-0136-3	-A 03/01/18 09:19	Aqueous	N/A	03/05/18	03/05/18 I0305TSSL 16:00	.1
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >	= to the MDL (DL	_) but < RL (L	OQ), if found, are	qualified with a "J" flag.	
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>	
Solids, Total Su	spended	ND	1.0	0.83	1.00		

1S4-E-180301	18-03-0136	5-4-A	03/01/18 09:38	Aqueous	N/A	03/05/18	03/05/18 16:00	103051SSL1
Comment(s):	- Results were evaluated to the MDL (D	L), conce	entrations >= to	the MDL (DL) but < RL (LOC	(a), if found, are o	qualified with a "	J" flag.
<u>Parameter</u>		Result	<u> </u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Qι</u>	<u>ıalifiers</u>
Solids, Total Sus	spended	3.2	1	.0	0.83	1.00		

TSX-E-DUP-18	0301	18-03-0136-5-A	03/01/18 09:40	Aqueous	N/A	03/05/18	03/05/18 16:00	10305TSSL1
Comment(s):	- Results were evaluated	to the MDL (DL), cond	centrations >=	to the MDL (DL	_) but < RL (L	OQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resu</u>	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>Qualifiers</u>

4.1

ND

1.0

1.0

0.83

0.83

1.00

1.00

Method Blank	099-09-010-8939	N/A	Aqueous	N/A	03/05/18	03/05/18 16:00	10305TSSL1
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >= t	the MDL (DL	_) but < RL (L	OQ), if found, are	qualified with a ".	J" flag.
<u>Parameter</u>	Resu	<u>ılt</u> <u>l</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Qu</u>	<u>alifiers</u>

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

CDIM Engineering Date Received: 03/02/18 45 Polk Street, 3rd floor Work Order: 18-03-0136 San Francisco, CA 94102-5260 Preparation: N/A Method: SM 4500 H+ B Units: pH units

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

TO 4 E 400004

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID	
TS1-E-180301		18-03-0136-1-H	03/01/18 08:41	Aqueous	PH 1	N/A	03/02/18 21:49	10302PHD2	
Comment(s):	- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.								
<u>Parameter</u>		Resu	<u>lt</u> .	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>Qualifiers</u>	
рН		7.15		0.01	0.01	1.00	E	BV,BU	

J" flag.
<u>alifiers</u>
,BU
ć

TS3-E-180301	18-03-0136-3-D	03/01/18 09:19	Aqueous	PH 1	N/A	03/02/18 21:49	10302PHD
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >= to	the MDL (DL)) but < RL (LC	Q), if found, are	qualified with a "	J" flag.
<u>Parameter</u>	Resu	<u>lt</u> <u>RL</u>	=	<u>MDL</u>	<u>DF</u>	<u>Qı</u>	alifiers
рН	7.44	0.0	01	0.01	1.00	BV	,BU

154-E-180301	18-03-0136-4-D	03/01/18 09:38	Aqueous	PH 1	N/A	03/02/18 21:49	10302PHD2
Comment(s):	- Results were evaluated to the MDL (DL), con	centrations >= to	the MDL (DL)	but < RL (LOQ), if found, are o	qualified with a	"J" flag.
<u>Parameter</u>	Res	<u>ult Rl</u>	<u> </u>	<u>MDL</u>	<u>DF</u>	Q	<u>ualifiers</u>
рH	7.06	0.0	01	0.01	1.00	B'	V,BU

TSX-E-DUP-18	0301	18-03-0136-5-D	03/01/18 09:40	Aqueous	PH 1	N/A	03/02/18 21:49	10302PHD2
Comment(s):	- Results were evaluated t	o the MDL (DL), conc	entrations >= to	the MDL (DL) but < RL (LO	Q), if found, are	qualified with a "	J" flag.
<u>Parameter</u>		<u>Resul</u>	<u>t </u>	<u> </u>	<u>MDL</u>	<u>DF</u>	<u>Qı</u>	<u>ualifiers</u>
pН		7.31	().01	0.01	1.00	B\	/,BU

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

CDIM Engineering Date Received: 03/02/18 45 Polk Street, 3rd floor Work Order: 18-03-0136 San Francisco, CA 94102-5260 Preparation: N/A Method: EPA 200.8 Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-

LRTC, Task 1

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-E-180301		18-03-0136-1-G	03/01/18 08:41	Aqueous	ICP/MS 05	03/06/18	03/07/18 23:31	180306LA2
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >=	to the MDL (DL) but < RL (LOC), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.001	92	0.00100	0.000140	1.00		
Lead		0.005	544	0.00100	0.0000898	1.00		
Zinc		0.082	29	0.00500	0.000479	1.00	E	3
Aluminum		0.071	7	0.0500	0.00331	1.00		
Iron		0.138	3	0.0500	0.00926	1.00		

TS2-E-180301	18-03-0136-2-C	03/01/18 09:08	Aqueous	ICP/MS 05	03/06/18	03/07/18 23:34	180306LA2
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >	= to the MDL (DL	_) but < RL (LOC), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	<u>Qualifiers</u>
Copper	0.010	02	0.00100	0.000140	1.00		
Lead	0.00	149	0.00100	0.0000898	1.00		
Zinc	0.08	40	0.00500	0.000479	1.00	I	3
Aluminum	0.010	64	0.0500	0.00331	1.00		J
Iron	0.01	71	0.0500	0.00926	1.00	•	J
Lead Zinc Aluminum	0.00 0.08 0.010	149 40 64	0.00100 0.00500 0.0500	0.0000898 0.000479 0.00331	1.00 1.00 1.00		

TS3-E-180301	18-	03-0136-3-C	03/01/18 09:19	Aqueous	ICP/MS 05	03/06/18	03/07/18 23:37	180306LA2
Comment(s):	- Results were evaluated to the	MDL (DL), conce	entrations >:	= to the MDL (DL	.) but < RL (LOC	(a), if found, are	qualified with a	'J" flag.
<u>Parameter</u>		Result	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u> :	<u>ualifiers</u>
Copper		0.0016	60	0.00100	0.000140	1.00		
Lead		0.001	14	0.00100	0.0000898	1.00		
Zinc		0.035	7	0.00500	0.000479	1.00	В	
Aluminum		0.0156	6	0.0500	0.00331	1.00	J	
Iron		0.016	7	0.0500	0.00926	1.00	J	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Method Blank

Analytical Report

CDIM Engineering Date Received: 03/02/18 45 Polk Street, 3rd floor Work Order: 18-03-0136 San Francisco, CA 94102-5260 Preparation: N/A Method: EPA 200.8 Units:

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 2 of 2

mg/L

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-E-180301		18-03-0136-4-C	03/01/18 09:38	Aqueous	ICP/MS 05	03/06/18	03/07/18 23:40	180306LA2
Comment(s):	- Results were evaluated to	o the MDL (DL), cond	centrations >=	to the MDL (DL) but < RL (LOC	(a), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.002	252	0.00100	0.000140	1.00		
Lead		0.000)850	0.00100	0.0000898	1.00	J	
Zinc		0.090)3	0.00500	0.000479	1.00	В	3
Aluminum		0.065	55	0.0500	0.00331	1.00		
Iron		0.070)5	0.0500	0.00926	1.00		

TSX-E-DUP-18	0301	18-03-0136-5-C	03/01/18 09:40	Aqueous	ICP/MS 05	03/06/18	03/07/18 23:43	180306LA2
Comment(s):	- Results were evaluated to	o the MDL (DL), cond	entrations >	= to the MDL (DI	L) but < RL (LOC)), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resu</u>	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Q	<u>ualifiers</u>
Copper		0.003	387	0.00100	0.000140	1.00		
Lead		0.000	964	0.00100	0.0000898	1.00	J	
Zinc		0.044	10	0.00500	0.000479	1.00	В	
Aluminum		0.068	88	0.0500	0.00331	1.00		
Iron		0.368	3	0.0500	0.00926	1.00		

Aqueous ICP/MS 03

03/06/18

03/09/18

180306LA2

					13:22	
Comment(s):	- Results were evaluated to the MDL (DL), co	oncentrations	>= to the MDL (DL) b	out < RL (LOQ), if fou	ınd, are qualified wi	h a "J" flag.
<u>Parameter</u>	<u>Re</u>	<u>esult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Copper	NE)	0.00100	0.000140	1.00	
Lead	NE)	0.00100	0.0000898	1.00	
Zinc	0.0	000874	0.00500	0.000479	1.00	J
Aluminum	NE)	0.0500	0.00331	1.00	
Iron	NE)	0.0500	0.00926	1.00	

RL: Reporting Limit. MDL: Method Detection Limit. DF: Dilution Factor.

099-16-094-2235



Quality Control - Spike/Spike Duplicate

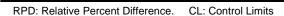
CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0136
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 1664A

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 2

Quality Control Sample ID	Туре		Matrix	Ins	strument	Date Prepared	Date Ana	alyzed	MS/MSD Ba	tch Number
TS1-E-180301	Sample		Aqueou	ıs N/	A	03/09/18	03/09/18	14:45	10309HEMS	2
TS1-E-180301	Matrix Spike		Aqueou	ıs N/	A	03/09/18	03/09/18	14:45	10309HEMS	2
TS1-E-180301	Matrix Spike	Duplicate	Aqueou	ıs N/	A	03/09/18	03/09/18	14:45	10309HEMS	2
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	<u>MS</u> %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	ND	20.00	15.10	76	17.60	88	64-132	15	0-34	





Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0136
San Francisco, CA 94102-5260 Preparation: N/A

Preparation: N/A Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре		Matrix	Ins	trument	Date Prepared	Date Ana	lyzed	MS/MSD Bat	tch Number
TS1-E-180301	Sample		Aqueous	s ICI	P/MS 05	03/06/18	03/07/18	23:31	180306SA2	
TS1-E-180301	Matrix Spike		Aqueous	s ICF	P/MS 05	03/06/18	03/07/18	23:17	180306SA2	
TS1-E-180301	Matrix Spike I	Duplicate	Aqueous	s ICF	P/MS 05	03/06/18	03/07/18	23:20	180306SA2	
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	0.001924	0.1000	0.09982	98	0.1058	104	80-120	6	0-20	
Lead	0.005442	0.1000	0.1080	103	0.1125	107	80-120	4	0-20	
Zinc	0.08288	0.1000	0.1920	109	0.1832	100	80-120	5	0-20	
Aluminum	0.07171	0.1000	0.1871	115	0.1887	117	80-120	1	0-20	
Iron	0.1378	5.100	5.506	105	5.980	115	80-120	8	0-20	





Quality Control - Sample Duplicate

CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Date Received:

Work Order:

Preparation:

Preparation: N/A Method: SM 2540 D

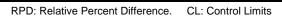
Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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03/02/18

18-03-0136

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
TS1-E-180301	Sample	Aqueous	N/A	03/05/18 00:00	03/05/18 16:00	10305TSSD1
TS1-E-180301	Sample Duplicate	Aqueous	N/A	03/05/18 00:00	03/05/18 16:00	10305TSSD1
Parameter		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	Qualifiers
Solids, Total Suspended		15.75	15.50	2	0-20	



Page 2 of 2



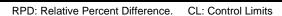
Quality Control - Sample Duplicate

CDIM Engineering Date Received: 03/02/18 45 Polk Street, 3rd floor Work Order: 18-03-0136 San Francisco, CA 94102-5260 Preparation:

N/A Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 $\,$

Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
TS1-E-180301	Sample	Aqueous	PH 1	N/A	03/02/18 21:49	I0302PHD2
TS1-E-180301	Sample Duplicate	Aqueous	PH 1	N/A	03/02/18 21:49	I0302PHD2
<u>Parameter</u>		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	<u>Qualifiers</u>
рН		7.150	7.480	5	0-25	



03/02/18

N/A

18-03-0136



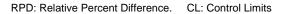
Quality Control - LCS/LCSD

CDIM Engineering Date Received: 45 Polk Street, 3rd floor Work Order: San Francisco, CA 94102-5260 Preparation:

> Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 Page 1 of 3

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	tch Number
099-16-927-98	LCS	Aqı	ieous	N/A	03/09/18	03/0	9/18 14:45	10309HEML2	
099-16-927-98	LCSD	Aqı	ieous	N/A	03/09/18	03/0	9/18 14:45	10309HEML2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	17.70	88	16.40	82	64-132	8	0-34	







Quality Control - LCS/LCSD

CDIM Engineering

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Date Received:

Work Order:

Preparation:

Preparation: N/A Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 $\,$

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03/02/18

18-03-0136

Quality Control Sample ID	Туре	Mat	rix	Instrument	Date Pre	pared Date	Analyzed	LCS/LCSD Ba	atch Number
099-09-010-8939	LCS	Aqı	ieous	N/A	03/05/18	03/0	5/18 16:00	10305TSSL1	
099-09-010-8939	LCSD	Aqı	ieous	N/A	03/05/18	03/0	5/18 16:00	10305TSSL1	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0	92.00	92	93.00	93	80-120	1	0-20	



Quality Control - LCS

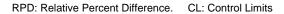
CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0136
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Type	Matrix	Instrument [Date Prepared	Date Analyzed	LCS Batch Number
099-16-094-2235	LCS	Aqueous	ICP/MS 03	03/06/18	03/09/18 13:20	180306LA2
<u>Parameter</u>		Spike Added	Conc. Recovere	ed LCS %Re	ec. %Rec	. CL Qualifiers
Copper		0.1000	0.1038	104	80-120	0
Lead		0.1000	0.1050	105	80-120	0
Zinc		0.1000	0.1081	108	80-120	0
Aluminum		0.1000	0.1031	103	80-120	0
Iron		5.100	5.327	104	80-120	0





Sample Analysis Summary Report

Work Order: 18-03-0136				Page 1 of 1
Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 1664A	N/A	784	N/A	1
EPA 200.8	N/A	598	ICP/MS 05	1
SM 2540 D	N/A	1136	N/A	1
SM 4500 H+ B	N/A	1086	PH 1	1



SG

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Glossary of Terms and Qualifiers

Work Order: 18-03-0136 Page 1 of 1

Qualifiers	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.

- % Recovery and/or RPD out-of-range. Ζ
 - Analyte presence was not confirmed by second column or GC/MS analysis.

The sample extract was subjected to Silica Gel treatment prior to analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

0

300

0 0

Received by:

x = Samples released to a secured, locked area.

U	Chain of Custody Record		INSTRUCTIONS FOR LAB PERSONNEL:	
CalScien 5063 Con	mental Lab ircle, Suite H	Please send analytic results, electronic deliverables and the original chain-of-custody form to: sab@cdimengineering.com	GeoTracker EDF required? o Yes x No Equis 4-file EDWEDD required? X Yes a No Specify analytic/prep method and detection limit in report.	
Concord, Phone:	Concord, CA 94520 Phone: 925-689-9022	mec@cdimengineering.com 72. © cd menaveenna . com	Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems.	925-25
	Client Contact	unc	Protocol ID/path:	COC Number:
CDIM EN	CDIM ENGINEERING	Project ID: 101-002-LRTC, Task 1	⊢	
45 POLK	45 POLK STREET, 3RD FLOOR	Sampled by: NEC/L2	3H-T	
SAN FRA	SAN FRANCISCO, CA	Sample date(s):	. SG.	Page of
(415) 498-0535	PHONE	Analysis Turnaround Time:		
Job Nam	Job Name: LRTC Annual Storm Water Sampling	Standard	OHB)	SOC number:
Address:	Levin Richmond Terminal, 402 Wright Avenue, Richmond, CA 94804	(Specify Days or Hours)	M 4500	
LabID		Sample Date Time Matrix Cont.	IS) Hq S listoT O il & ilO	Sample Specific Notes:
/	TS1-E[9030]	3/1/19 0841 W BB	× × × ×	MS/MSD (collect triple sample volume for metals [3] bottles] and double for O&G 14 bottles).
7	TS2-E- 190301		× × ×	
iv	TS3-E- [8030]	8h 6160	× × ×	
4	TS4-E- \3030\	0933 45	× × ×	
N	TSX-E-DUP-190301	8n \ 0400 \	× × ×	
		Field Filtered (X):	(X):	
	Preservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4=HNO ₃ ; 5=NaOH; 6= Other		1 1 1 1,3 1,4 1,4 1 1 1 1 1 1	1 1
Special	Special Instructions/QC Requirements & Comments:		Level II Report. Report with reporting limit and method detection limit. Analyze and report only the metals listed above.	metals listed above.
Relinquished by:	me ha COM	Company: Date/Time: S/1 /19 11 4()	Recogned by: f Compa	DaterTime 1140

= Samples received from a secured, locked area





800-322-5555 www.gso.com



Ship From

CAL SCIENCE- CONCORD ALAN KEMP 5063 COMMERCIAL CIRCLE #H CONCORD, CA 94520

Ship To CEL SAMPLE RECEIVING 7440 LINCOLN WAY GARDEN GROVE, CA 92841

COD: \$0.00
Weight: 0 lb(s)
Reference:
CDIM

Delivery Instructions:

Signature Type: STANDARD

Tracking #: 539646324



NPS





D92845A



Print Date: 3/1/2018 12:05 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.



WORK ORDER NUMBER: 18-03-0637

Calscience SAMPLE RECEIPT CHECKLIST	CC	OOLER _	<u>/</u> of	<u></u>
CLIENT: CDIM Engly.	DATE	: <u>03 /</u> C	ગ્સ/ 2 ()18_
TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue) Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): °C (w/ CF): 7 □ Sample(s) outside temperature criteria (PM/APM contacted by:) □ Sample(s) outside temperature criteria but received on ice/chilled on same day of same		Blank	□ Sai	mple
☐ Sample(s) received at ambient temperature; placed on ice for transport by courier Ambient Temperature: ☐ Air ☐ Filter		Checked	by: <u>83</u>	6_
Cooler La Present and made	N/A N/A	Checked Checked		6 148 2
SAMPLE CONDITION:		Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples		Ø		
COC document(s) received complete		Ð		
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers				
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquish		el el		
Sampler's name indicated on COC				
Sample container label(s) consistent with COC				
Sample container(s) intact and in good condition	,	/		
Proper containers for analyses requested				
Sufficient volume/mass for analyses requested				
Samples received within holding time		Ł		ا ـــا
Aqueous samples for certain analyses received within 15-minute holding time		_	d	П
pH □ Residual Chlorine □ Dissolved Sulfide □ Dissolved Oxygen			_ 	_
Proper preservation chemical(s) noted on COC and/or sample container	• • • • • • • • • • • • • • • • • • • •	4	L	
Unpreserved aqueous sample(s) received for certain analyses				
□ Volatile Organics □ Total Metals □ Dissolved Metals		4		П
Acid/base preserved samples - pH within acceptable range				
Container(s) for certain analysis free of headspace		. Ц	L	ڪ
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)				
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)				1
Tedlar™ bag(s) free of condensation				린
CONTAINER TYPE: (Trip Blank Lo	t Numbe	r:)
Aqueous: □ VOA □ VOAh □ VOAna₂ □ 100PJ □ 100PJna₂ □ 125AGB □ 125AGBh □ 125A	□ 500AG	3J s (pH2)) 🗆 500Р	B
☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs (pH 2) ☑ 1AGBs (O&G) ☑ 1PB ☐ 1PBna (pH12) ☐	□			
Solid: \[407CGJ \[\] 802CGJ \[\] 1602CGJ \[\] Sleeve () \[\] EnCores [®] () \[\] TerraCores [®] () \[\]]	_ 🛮	□	
Air: □ Tedlar™ □ Canister □ Sorbent Tube □ PUF □ Other Matrix (): □ _		o	_ 🛛	
Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Z	Ziploc/Res	ealable Ba	3	
Preservative: $b = buffered$, $f = filtered$, $h = HCI$, $n = HNO_3$, $na = NaOH$, $na_2 = Na_2S_2O_3$, $p = H_3PO_4$,	Labele	d/Checked	by: Mar	<u>n</u>
$\mathbf{s} = H_2SO_4$, $\mathbf{u} = \text{ultra-pure}$, $\mathbf{x} = Na_2SO_3 + NaHSO_4$. H_2O_1 , $\mathbf{znna} = Zn (CH_3CO_2)_2 + NaOH$		Reviewed	l by: <u>[0</u>	<u>کے</u>



Calscience



WORK ORDER NUMBER: 18-03-0135

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: CDIM Engineering

Client Project Name: LRTC Annual Storm Water Sampling / 101-

002-LRTC, Task 1

Attention: Scott Bourne

45 Polk Street, 3rd floor

San Francisco, CA 94102-5260

Vinda Polis

Approved for release on 03/12/2018 by:

Virendra Patel Project Manager

ResultLink >

Email your PM >

Eurofins Calscience (Calscience) certifies that the test results provided in this report meet all NELAC Institute requirements for parameters for which accreditation is required or available. Any exceptions to NELAC Institute requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name:	LRTC Annual Storm Water Sampling / 101-002-LRTC, Task	k 1
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Work Order Number: 18-03-0135

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2	Sample Summary	4
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4	Client Sample Data. 4.1 EPA 1664A HEM-SGT: Oil and Grease (Aqueous). 4.2 SM 2540 D Total Suspended Solids (Aqueous). 4.3 SM 4500 H+ B pH (Aqueous). 4.4 EPA 200.8 ICP/MS Metals (Aqueous).	6 6 7 8 9
5	Quality Control Sample Data. 5.1 MS/MSD. 5.2 Sample Duplicate. 5.3 LCS/LCSD.	11 11 13 15
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Work Order Narrative

Work Order: 18-03-0135 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/02/18. They were assigned to Work Order 18-03-0135.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.

18-03-0135





San Francisco, CA 94102-5260

Sample Summary

Client: CDIM Engineering Work Order:

45 Polk Street, 3rd floor Project Name:

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

PO Number:

Date/Time 03/02/18 09:50

Received:

16 Number of

Containers:

Attn: Scott Bourne

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TS1-I-180301	18-03-0135-1	03/01/18 08:29	4	Aqueous
TS2-I-180301	18-03-0135-2	03/01/18 09:03	4	Aqueous
TS3-I-180301	18-03-0135-3	03/01/18 09:24	4	Aqueous
TS4-I-180301	18-03-0135-4	03/01/18 09:32	4	Aqueous



San Francisco, CA 94102-5260

Detections Summary

Client: CDIM Engineering Work Order: 18-03-0135

LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 45 Polk Street, 3rd floor Project Name:

Received: 03/02/18

Attn: Scott Bourne Page 1 of 1

Client SampleID						
Analyte	Result	Qualifiers	<u>RL</u>	<u>Units</u>	<u>Method</u>	Extraction
TS1-I-180301 (18-03-0135-1)						
HEM - SGT: Oil and Grease	2.4		1.0	mg/L	EPA 1664A	N/A
Copper	0.0323		0.0100	mg/L	EPA 200.8	N/A
Lead	0.129		0.0100	mg/L	EPA 200.8	N/A
Zinc	0.516		0.0500	mg/L	EPA 200.8	N/A
Aluminum	1.35		0.500	mg/L	EPA 200.8	N/A
Iron	3.78		0.500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	464		1.00	mg/L	SM 2540 D	N/A
pH	7.33	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS2-I-180301 (18-03-0135-2)						
HEM - SGT: Oil and Grease	2.0		1.0	mg/L	EPA 1664A	N/A
Copper	0.0116		0.0100	mg/L	EPA 200.8	N/A
Lead	0.0237		0.0100	mg/L	EPA 200.8	N/A
Zinc	0.313		0.0500	mg/L	EPA 200.8	N/A
Aluminum	1.18		0.500	mg/L	EPA 200.8	N/A
Iron	2.23		0.500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	214		1.00	mg/L	SM 2540 D	N/A
рН	7.19	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS3-I-180301 (18-03-0135-3)						
HEM - SGT: Oil and Grease	1.4		1.0	mg/L	EPA 1664A	N/A
Copper	0.00888		0.00100	mg/L	EPA 200.8	N/A
Lead	0.0286		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.141		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.167		0.0500	mg/L	EPA 200.8	N/A
Iron	0.315		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	23		1.0	mg/L	SM 2540 D	N/A
рН	7.06	BV,BU	0.01	pH units	SM 4500 H+ B	N/A
TS4-I-180301 (18-03-0135-4)						
Copper	0.00455		0.00100	mg/L	EPA 200.8	N/A
Lead	0.00688		0.00100	mg/L	EPA 200.8	N/A
Zinc	0.0640		0.00500	mg/L	EPA 200.8	N/A
Aluminum	0.163		0.0500	mg/L	EPA 200.8	N/A
Iron	0.206		0.0500	mg/L	EPA 200.8	N/A
Solids, Total Suspended	8.8		1.0	mg/L	SM 2540 D	N/A
рН	6.82	BV,BU	0.01	pH units	SM 4500 H+ B	N/A

Subcontracted analyses, if any, are not included in this summary.

^{*} MDL is shown



Analytical Report

 CDIM Engineering
 Date Received:
 03/02/18

 45 Polk Street, 3rd floor
 Work Order:
 18-03-0135

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 EPA 1664A

 Units:
 mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180301	18-03-0135-1-B	03/01/18 08:29	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s): - Results were evaluated t	o the MDL (DL), cond	centrations >= t	o the MDL (DI	but < RL (LO	Q), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	<u>Qualifiers</u>
HEM - SGT: Oil and Grease	2.4		1.0	0.81	1.00		

TS2-I-180301	18-03-0135-2-B 03/0 09:0		s N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s): - Results were evaluated	to the MDL (DL), concentrate	ions >= to the MDL (DL) but < RL (LC	DQ), if found, are	qualified with a	a "J" flag.
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>(</u>	<u>Qualifiers</u>
HEM - SGT: Oil and Grease	2.0	1.0	0.81	1.00		

TS3-I-180301	18-03-0135-3	3-B 03/01/18 09:24	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s):	- Results were evaluated to the MDL (DL)	, concentrations	>= to the MDL (DI	L) but < RL (LC	DQ), if found, are	qualified with a "	J" flag.
<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qı</u>	<u>ıalifiers</u>
HEM - SGT: Oil	and Grease	1.4	1.0	0.81	1.00		

TS4-I-180301	18-03-0135	-4-B 03/01/18 09:32	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s):	- Results were evaluated to the MDL (D	L), concentrations	>= to the MDL (DI	L) but < RL (L	.OQ), if found, are	qualified with a "	J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qı</u>	<u>ualifiers</u>
HEM - SGT: Oi	I and Grease	ND	1.0	0.81	1.00		

Method Blank	099-1	6-927-98	N/A	Aqueous	N/A	03/09/18	03/09/18 14:45	10309HEML2
Comment(s):	- Results were evaluated to the MI	DL (DL), conce	entrations >=	to the MDL (DL) but < RL (LC	Q), if found, are	qualified with a	'J" flag.
<u>Parameter</u>		Result	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qı</u>	<u>ualifiers</u>
HEM - SGT: Oil	and Grease	ND		1.0	0.81	1.00		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

 CDIM Engineering
 Date Received:
 03/02/18

 45 Polk Street, 3rd floor
 Work Order:
 18-03-0135

 San Francisco, CA 94102-5260
 Preparation:
 N/A

 Method:
 SM 2540 D

 Units:
 mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180301	18-03-0135-1-A	03/01/18 08:29	Aqueous	N/A	03/07/18	03/07/18 13:30	10307TSSL1
Comment(s): - Results were evaluated to	the MDL (DL), conc	entrations >= t	to the MDL (DL) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	<u>Resul</u>	<u>t</u> .	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>0</u>	<u>Qualifiers</u>
Solids, Total Suspended	464		1.00	0.829	1.00		

TS2-I-180301		18-03-0135-2-A	03/01/18 09:03	Aqueous	N/A	03/07/18	03/07/18 13:30	10307TSSL1
Comment(s):	- Results were evaluated	to the MDL (DL), cond	centrations >= t	o the MDL (DL	_) but < RL (L	OQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Resu</u>	<u>lt</u> <u>f</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	2	<u>Qualifiers</u>
Solids, Total Su	spended	214	•	1.00	0.829	1.00		

TS3-I-180301	18-03	-0135-3-A	03/01/18 09:24	Aqueous	N/A	03/07/18	03/07/18 13:30	I0307TSSL1
Comment(s):	- Results were evaluated to the MI	DL (DL), cond	entrations >= 1	to the MDL (DI	_) but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resul	<u> t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
Solids, Total Su	spended	23		1.0	0.83	1.00		

TS4-I-180301	18-03-0135-	4-A 03/01/ 09:32	18 Aqueous	N/A	03/07/18	03/07/18 13:30	10307TSSL1
Comment(s):	- Results were evaluated to the MDL (DL), concentration	ns >= to the MDL (D	L) but < RL	(LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
Solids, Total Sur	spended	8.8	1.0	0.83	1.00		

Method Blank	099-09-0	10-8946	N/A	Aqueous	N/A	03/07/18	03/07/18 13:30	10307TSSL1
Comment(s):	- Results were evaluated to the MDL (DL), conce	entrations >= to	the MDL (DL) but < RL	(LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Result	<u> </u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Q	<u>ualifiers</u>
Solids, Total Sus	spended	ND	1	.0	0.83	1.00		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

CDIM Engineering Date Received: 03/02/18 18-03-0135 45 Polk Street, 3rd floor Work Order: San Francisco, CA 94102-5260 Preparation: N/A Method: SM 4500 H+ B

> Units: pH units

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 1

Client Sample N	Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180301		18-03-0135-1-A	03/01/18 08:29	Aqueous	PH 1	N/A	03/02/18 21:49	I0302PHD2
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >= t	o the MDL (DI) but < RL (LO	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u> <u></u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
рН		7.33	(0.01	0.01	1.00	E	BV,BU

TS2-I-180301	18-03-0135-2-A	03/01/18 09:03	Aqueous	PH 1	N/A	03/02/18 21:49	I0302PHD2
Comment(s):	- Results were evaluated to the MDL (DL), cond	centrations >=	to the MDL (DL	but < RL (LC	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Q</u>	<u>ualifiers</u>
рН	7.19		0.01	0.01	1.00	В	V,BU

TS3-I-180301	18-03-0135-3-D	03/01/18 09:24	Aqueous	PH 1	N/A	03/02/18 21:49	10302PHD2
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >= to	the MDL (DL	but < RL (LO	Q), if found, are	qualified with a "J	" flag.
<u>Parameter</u>	Resu	<u>ılt</u> <u>R</u>	<u>L</u>	<u>MDL</u>	<u>DF</u>	Qua	alifiers
рН	7.06	0	.01	0.01	1.00	BV,	BU

TS4-I-180301	18-03-0135-4-	A 03/01/18 09:32	Aqueous	PH 1	N/A	03/02/18 I0302PHI 21:49	D2
Comment(s):	- Results were evaluated to the MDL (DL),	concentrations >	= to the MDL (DL) but < RL (L0	OQ), if found, are	qualified with a "J" flag.	
<u>Parameter</u>	<u>R</u>	<u>tesult</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qualifiers	
рН	6	.82	0.01	0.01	1.00	BV,BU	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0135
San Francisco, CA 94102-5260 Preparation: N/A
Method: EPA 200.8

Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 2

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS1-I-180301		18-03-0135-1-C	03/01/18 08:29	Aqueous	ICP/MS 05	03/06/18	03/07/18 22:54	180306LA3
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >=	to the MDL (DL	_) but < RL (LOC	Q), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	<u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.032	23	0.0100	0.00140	10.0		
Lead		0.129)	0.0100	0.000898	10.0		
Zinc		0.516	5	0.0500	0.00479	10.0		
Aluminum		1.35		0.500	0.0331	10.0		
Iron		3.78		0.500	0.0926	10.0		

TS2-I-180301	18-03-0135-2-C	03/01/18 09:03	Aqueous	ICP/MS 05	03/06/18	03/07/18 1 22:57	180306LA3
Comment(s): - Results were evaluated to	the MDL (DL), cond	entrations >=	to the MDL (DL) but < RL (LOC	Q), if found, are	qualified with a "J"	flag.
<u>Parameter</u>	Resul	<u>t</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	<u>ifiers</u>
Copper	0.011	6	0.0100	0.00140	10.0		
Lead	0.023	7	0.0100	0.000898	10.0		
Zinc	0.313		0.0500	0.00479	10.0		
Aluminum	1.18		0.500	0.0331	10.0		
Iron	2.23		0.500	0.0926	10.0		

TS3-I-180301	18-03-0135-3-C	03/01/18 09:24	Aqueous	ICP/MS 05	03/06/18	03/07/18 22:59	180306LA3
Comment(s):	- Results were evaluated to the MDL (DL), con-	centrations >=	to the MDL (DL) but < RL (LOQ), if found, are	qualified with a	"J" flag.
<u>Parameter</u>	Resu	<u>ılt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>ualifiers</u>
Copper	0.003	388	0.00100	0.000140	1.00		
Lead	0.02	36	0.00100	0.0000898	1.00		
Zinc	0.14	1	0.00500	0.000479	1.00		
Aluminum	0.16	7	0.0500	0.00331	1.00		
Iron	0.31	5	0.0500	0.00926	1.00		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Analytical Report

CDIM Engineering Date Received: 03/02/18 45 Polk Street, 3rd floor Work Order: 18-03-0135 San Francisco, CA 94102-5260 Preparation: N/A

> Method: EPA 200.8 Units: mg/L

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 2 of 2

Client Sample N	lumber	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TS4-I-180301		18-03-0135-4-C	03/01/18 09:32	Aqueous	ICP/MS 05	03/06/18	03/07/18 23:02	180306LA3
Comment(s):	- Results were evaluated t	o the MDL (DL), cond	centrations >=	to the MDL (DI	_) but < RL (LOC), if found, are	qualified with a	"J" flag.
<u>Parameter</u>		Resu	ı <u>lt</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>C</u>	<u>Qualifiers</u>
Copper		0.004	155	0.00100	0.000140	1.00		
Lead		0.006	888	0.00100	0.0000898	1.00		
Zinc		0.064	40	0.00500	0.000479	1.00		
Aluminum		0.163	3	0.0500	0.00331	1.00		
Iron		0.206	3	0.0500	0.00926	1.00		

Method Blank	099-16-094-2229	N/A Aqueou	us ICP/MS 03		03/08/18 180306LA3 13:32
Comment(s):	- Results were evaluated to the MDL (DL), conce	entrations >= to the MDL	(DL) but < RL (LOQ), if found, are qu	ualified with a "J" flag.
<u>Parameter</u>	Result	<u>t</u> <u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qualifiers</u>
Copper	ND	0.00100	0.000140	1.00	
Lead	ND	0.00100	0.0000898	1.00	
Zinc	ND	0.00500	0.000479	1.00	
Aluminum	ND	0.0500	0.00331	1.00	
Iron	ND	0.0500	0.00926	1.00	





Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 03/02/18 45 Polk Street, 3rd floor Work Order: 18-03-0135 San Francisco, CA 94102-5260 Preparation: N/A

Method: **EPA 1664A**

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Page 1 of 2

Quality Control Sample ID Type		Matrix	Ins	trument	Date Prepared	Date Ana	lyzed	MS/MSD Ba	tch Number	
18-03-0136-1	Sample		Aqueous N/A		03/09/18	03/09/18	14:45	10309HEMS	2	
18-03-0136-1	Matrix Spike		Aqueou	ıs N/A	4	03/09/18	03/09/18	14:45	10309HEMS	2
18-03-0136-1	Matrix Spike	Duplicate	Aqueou	ıs N/A	4	03/09/18	03/09/18	14:45	10309HEMS	2
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	ND	20.00	15.10	76	17.60	88	64-132	15	0-34	





Quality Control - Spike/Spike Duplicate

CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0135
San Francisco, CA 94102-5260 Preparation: N/A

Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Type		Matrix	Inst	rument	Date Prepared	Date Ana	lyzed	MS/MSD Bat	ch Number
18-03-0024-13	Sample		Aqueous	s ICP	/MS 03	03/06/18	03/08/18	14:20	180306SA3	
18-03-0024-13	Matrix Spike		Aqueous	s ICP	/MS 03	03/06/18	03/08/18	14:15	180306SA3	
18-03-0024-13	Matrix Spike	Duplicate	Aqueous	s ICP	/MS 03	03/06/18	03/08/18	14:17	180306SA3	
Parameter	Sample Conc.	<u>Spike</u> <u>Added</u>	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Copper	ND	0.1000	0.09993	100	0.09764	98	80-120	2	0-20	
Lead	ND	0.1000	0.1124	112	0.1093	109	80-120	3	0-20	
Zinc	ND	0.1000	0.1717	172	0.1069	107	80-120	46	0-20	3,4
Aluminum	ND	0.1000	0.1309	131	0.1183	118	80-120	10	0-20	3
Iron	ND	5.100	5.099	100	4.897	96	80-120	4	0-20	





Quality Control - Sample Duplicate

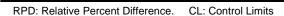
CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0135
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-03-0023-2	Sample	Aqueous	N/A	03/07/18 00:00	03/07/18 13:30	10307TSSD1
18-03-0023-2	Sample Duplicate	Aqueous	N/A	03/07/18 00:00	03/07/18 13:30	I0307TSSD1
Parameter		Sample Conc.	DUP Conc.	RPD	RPD CL	<u>Qualifiers</u>
Solids, Total Suspended		958.0	912.0	5	0-20	





Quality Control - Sample Duplicate

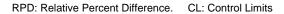
CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0135
San Francisco, CA 94102-5260 Preparation: N/A

Method: SM 4500 H+ B

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

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Quality Control Sample ID	Туре	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
18-03-0136-1	Sample	Aqueous	PH 1	N/A	03/02/18 21:49	I0302PHD2
18-03-0136-1	Sample Duplicate	Aqueous	PH 1	N/A	03/02/18 21:49	I0302PHD2
Parameter		Sample Conc.	DUP Conc.	<u>RPD</u>	RPD CL	<u>Qualifiers</u>
рН		7.150	7.480	5	0-25	





Quality Control - LCS/LCSD

CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0135
San Francisco, CA 94102-5260 Preparation: N/A

Preparation: N/A Method: EPA 1664A

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Quality Control Sample ID	Туре	Matrix		Instrument		pared Date	Analyzed	LCS/LCSD Ba	tch Number
099-16-927-98	LCS	Aqueous		N/A	03/09/18		9/18 14:45	10309HEML2	
099-16-927-98	LCSD	Aqı	ieous	N/A	03/09/18	03/0	9/18 14:45	10309HEML2	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM - SGT: Oil and Grease	20.00	17.70	88	16.40	82	64-132	8	0-34	





Quality Control - LCS/LCSD

CDIM Engineering Date Received: 03/02/18
45 Polk Street, 3rd floor Work Order: 18-03-0135
San Francisco, CA 94102-5260 Preparation: N/A

San Francisco, CA 94102-5260 Preparation: N/A
Method: SM 2540 D

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1

Quality Control Sample ID	Туре	Mat	trix Instrument		Date Prepared		e Analyzed	LCS/LCSD Batch Number	
099-09-010-8946	LCS	Aqueous I		N/A	N/A 03/07/18		07/18 13:30	10307TSSL1	
099-09-010-8946	LCSD	Aqı	ueous	N/A	03/07/18	03/0	07/18 13:30	10307TSSL1	
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Solids, Total Suspended	100.0	97.00	97	93.00	93	80-120	4	0-20	

03/02/18

N/A

18-03-0135



Quality Control - LCS

CDIM Engineering Date Received: 45 Polk Street, 3rd floor Work Order: San Francisco, CA 94102-5260 Preparation:

> Method: EPA 200.8

Project: LRTC Annual Storm Water Sampling / 101-002-LRTC, Task 1 $\,$

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-094-2229	LCS	Aqueous	ICP/MS 03	03/06/18	03/08/18 14:02	180306LA3
<u>Parameter</u>		Spike Added	Conc. Recover	ed LCS %Re	ec. %Rec	CL Qualifiers
Copper		0.1000	0.1062	106	80-120)
Lead		0.1000	0.1105	111	80-120)
Zinc		0.1000	0.1101	110	80-120)
Aluminum		0.1000	0.1083	108	80-120)
Iron		5.100	5.416	106	80-120)



Sample Analysis Summary Report

Work Order: 18-03-0135				Page 1 of 1
Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 1664A	N/A	784	N/A	1
EPA 200.8	N/A	598	ICP/MS 05	1
SM 2540 D	N/A	1136	N/A	1
SM 4500 H+ B	N/A	1086	PH 1	1



Glossary of Terms and Qualifiers

Work Order: 18-03-0135 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.

- % Recovery and/or RPD out-of-range.
- Χ
- Ζ Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

Return to Contents

800-322-5555 www.gso.com (0135)

Ship From

CAL SCIENCE- CONCORD ALAN KEMP 5063 COMMERCIAL CIRCLE #H CONCORD, CA 94520

Ship To CEL SAMPLE RECEIVING 7440 LINCOLN WAY GARDEN GROVE, CA 92841

COD: \$0.00 Weight: 0 lb(s) Reference: CDIM

Signature Type: STANDARD

Delivery Instructions:

Tracking #: 539646325



NPS





D92845A



Print Date: 3/1/2018 12:05 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.

Step 2: Fold this page in half.

Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the GSO service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gso.com.



Calscience

SAMPLE RECEIPT CHECKLIST

	ľ	-	,
COOLER		OF	/

CLIENT: <u>CDIM Engig</u>	DATE: <u>03</u> /	1021	<u> 2018 </u>
TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)	20		`
Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF):/-&°C (w/ CF):/-8	_°C; ⊿ Biani	к ц	Sample
☐ Sample(s) outside temperature criteria (PM/APM contacted by:)			
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of samplir	ng		
☐ Sample(s) received at ambient temperature; placed on ice for transport by courier		Ç	
Ambient Temperature: ☐ Air ☐ Filter	Checke	ed by: _8	26
CUSTODY SEAL:		٢	
Cooler ☐ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A	A Checke	ed by: 🕹	36
Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A	\ Checke	ed by: <u>~</u>	lin_
SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples			
COC document(s) received complete			
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished	l time		
Sampler's name indicated on COC			
Sample container label(s) consistent with COC			
Sample container(s) intact and in good condition			
Proper containers for analyses requested			
Sufficient volume/mass for analyses requested			
Samples received within holding time		نسا	
Aqueous samples for certain analyses received within 15-minute holding time			
pH □ Residual Chlorine □ Dissolved Sulfide □ Dissolved Oxygen	- Anna		
Proper preservation chemical(s) noted on COC and/or sample container			
Unpreserved aqueous sample(s) received for certain analyses			
□ Volatile Organics □ Total Metals □ Dissolved Metals	_	,	,,,,,,
Acid/base preserved samples - pH within acceptable range			
Container(s) for certain analysis free of headspace	🗖		-0
□ Volatile Organics □ Dissolved Gases (RSK-175) □ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	🗖		-8
CONTAINER TYPE: (Trip Blank Lot N	umber:)
Aqueous: □ VOA □ VOAh □ VOAna₂ □ 100PJ □ 100PJna₂ □ 125AGB □ 125AGBh □ 125AGBp ₽	125PB □ 125	PB znna (pH9)
☐ 250AGB ☐ 250CGB ☐ 250CGBs (pH_2) ☐ 250PB ☐ 250PBn (pH_2) ☐ 500AGB ☐ 500AGJ ☐	500AGJs (pH	_2) 🗆 50	0PB
☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs (pH_2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PBna (pH_12) ☐			
Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve () EnCores® () TerraCores® ()	D		
Air: □ Tedlar™ □ Canister □ Sorbent Tube □ PUF □ Other Matrix (): □	□	□_	
Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziplo			0 ~
Preservative: $\mathbf{b} = \text{buffered}$, $\mathbf{f} = \text{filtered}$, $\mathbf{h} = \text{HCI}$, $\mathbf{n} = \text{HNO}_3$, $\mathbf{na} = \text{NaOH}$, $\mathbf{na}_2 = \text{Na}_2\text{S}_2\text{O}_3$, $\mathbf{p} = \text{H}_3\text{PO}_4$,			dir_
$s = H_0 SO_4$ $u = ultra-pure$ $x = Na_0 SO_3 + NaHSO_4$, $H_0 O_2$, $znna = Zn (CH_3 CO_2)_2 + NaOH$	Review	ed by:	un



March 27, 2018

Vista Work Order No. 1800396

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on March 02, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-002-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

Work Order 1800396 Page 1 of 12

Vista Work Order No. 1800396 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

Work Order 1800396 Page 2 of 12

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Certifications	10
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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800396-01	TS2-E-180301	01-Mar-18 09:08	02-Mar-18 10:13	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle. 1L

Vista Project: 1800396 Client Project: 101-002-LRTC, Task 1

Work Order 1800396 Page 4 of 12

ANALYTICAL RESULTS

Work Order 1800396 Page 5 of 12

Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8C0047 Lab Sample: B8C0047-BLK1

Sample Size: 1.00 L Date Extracted: 07-Mar-2018 11:40 Date Analyzed: 20-Mar-18 17:37 Column: ZB-50

Analyte (Conc. (pg/L)	DL EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	5.25		J	IS	13C6-Hexachlorobenzene	61.7	5 - 120	
alpha-BHC	ND	9.61		IS	13C6-alpha-BHC	77.9	32 - 130	
Lindane (gamma-BHC)	ND	14.2		IS	13C6-Lindane (gamma-BHC)	81.7	11 - 120	
beta-BHC	ND	12.2		IS	13C6-beta-BHC	82.7	32 - 130	
delta-BHC	ND	9.79		IS	13C6-delta-BHC	83.9	36 - 137	
Heptachlor	ND	1.21		IS	13C10-Heptachlor	84.5	5 - 120	
Aldrin	ND	4.59		IS	13C12-Aldrin	78.0	5 - 120	
Oxychlordane	ND	14.0		IS	13C10-Oxychlordane	92.0	23 - 135	
cis-Heptachlor Epoxide	ND	10.6		IS	13C10-cis-Heptachlor Epoxide	90.3	27 - 137	
trans-Heptachlor Epoxic	le ND	37.7		IS	13C10-trans-Chlordane (gamma)	88.0	21 - 132	
trans-Chlordane (gamma	a) ND	12.8		IS	13C10-trans-Nonachlor	86.7	14 - 136	
trans-Nonachlor	ND	13.2		IS	13C9-Endosulfan I (alpha)	84.7	15 - 148	
cis-Chlordane (alpha)	ND	11.8		IS	13C12-2,4'-DDE	80.2	47 - 160	
Endosulfan I (alpha)	ND	17.0		IS	13C12-4,4'-DDE	84.2	47 - 160	
2,4'-DDE	ND	5.47		IS	13C12-Dieldrin	88.7	40 - 151	
4,4'-DDE	ND	6.30		IS	13C12-Endrin	109	35 - 155	
Dieldrin	ND	8.46		IS	13C10-cis-Nonachlor	85.7	36 - 139	
Endrin	ND	11.6		IS	13C9-Endosulfan II (beta)	78.7	5 - 122	
cis-Nonachlor	ND	15.0		IS	13C12-2,4'-DDD	83.9	5 - 199	
Endosulfan II (beta)	ND	45.6		IS	13C12-2,4'-DDT	85.3	5 - 199	
2,4'-DDD	ND	6.98		IS	13C12-4,4'-DDD	83.4	5 - 120	
2,4'-DDT	ND	11.3		IS	13C12-4,4'-DDT	86.8	5 - 120	
4,4'-DDD	ND	6.79		IS	13C9-Endosulfan Sulfate	99.6	15 - 148	
4,4'-DDT	ND	10.2		IS	13C12-Methoxychlor	88.7	5 - 120	
Endosulfan Sulfate	ND	25.3		IS	13C10-Mirex	74.8	5 - 120	
4,4'-Methoxychlor	ND	5.05		IS	13C12-Endrin Aldehyde	64.4	15 - 148	
Mirex	ND	3.97		IS	13C12-Endrin Ketone	83.6	15 - 148	
Endrin Aldehyde	ND	8.76						
Endrin Ketone	ND	13.9						

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8C0047 Lab Sample: B8C0047-BS1

Sample Size: 1.00 L Date Extracted: 07-Mar-2018 11:40 Date Analyzed: 20-Mar-18 15:12 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	I CL HCL
					IC			LCL-UCL
Hexachlorobenzene	997	1000	99.7	50 - 120	IS	13C6-Hexachlorobenzene	60.9	5 - 120
alpha-BHC	1010	1000	101	50 - 120	IS	13C6-alpha-BHC	74.6	17 - 141
Lindane (gamma-BHC)	952	1000	95.2	50 - 120	IS	13C6-Lindane (gamma-BHC)	80.9	5 - 124
beta-BHC	940	1000	94.0	50 - 120	IS	13C6-beta-BHC	84.2	17 - 141
delta-BHC	915	1000	91.5	50 - 120	IS	13C6-delta-BHC	87.2	16 - 150
Heptachlor	991	1000	99.1	50 - 120	IS	13C10-Heptachlor	83.6	5 - 128
Aldrin	978	1000	97.8	50 - 120	IS	13C12-Aldrin	74.0	5 - 126
Oxychlordane	890	1000	89.0	50 - 120	IS	13C10-Oxychlordane	89.7	5 - 144
cis-Heptachlor Epoxide	948	1000	94.8	50 - 120	IS	13C10-cis-Heptachlor Epoxide	94.5	8 - 146
trans-Heptachlor Epoxide	897	1000	89.7	50 - 120	IS	13C10-trans-Chlordane (gamma)	85.2	15 - 144
trans-Chlordane (gamma)	1020	1000	102	50 - 120	IS	13C10-trans-Nonachlor	88.9	13 - 149
trans-Nonachlor	926	1000	92.6	50 - 120	IS	13C9-Endosulfan I (alpha)	96.6	5 - 144
cis-Chlordane (alpha)	960	1000	96.0	50 - 120	IS	13C12-2,4'-DDE	91.2	26 - 169
Endosulfan I (alpha)	892	1000	89.2	50 - 120	IS	13C12-4,4'-DDE	94.4	26 - 169
2,4'-DDE	992	1000	99.2	24 - 123	IS	13C12-Dieldrin	103	19 - 161
4,4'-DDE	979	1000	97.9	50 - 120	IS	13C12-Endrin	144	20 - 157
Dieldrin	924	1000	92.4	50 - 120	IS	13C10-cis-Nonachlor	105	17 - 154
Endrin	907	1000	90.7	50 - 120	IS	13C9-Endosulfan II (beta)	108	5 - 120
cis-Nonachlor	885	1000	88.5	50 - 120	IS	13C12-2,4'-DDD	97.8	14 - 200
Endosulfan II (beta)	1010	1000	101	5 - 200	IS	13C12-2,4'-DDT	103	14 - 200
2,4'-DDD	986	1000	98.6	50 - 120	IS	13C12-4,4'-DDD	103	14 - 200
2,4'-DDT	1030	1000	103	50 - 120	IS	13C12-4,4'-DDT	113	13 - 200
4,4'-DDD	984	1000	98.4	42 - 120	IS	13C9-Endosulfan Sulfate	112	5 - 144
4,4'-DDT	974	1000	97.4	50 - 120	IS	13C12-Methoxychlor	122	8 - 200
Endosulfan Sulfate	831	1000	83.1	50 - 120	IS	13C10-Mirex	101	5 - 138
4,4'-Methoxychlor	961	1000	96.1	50 - 120	IS	13C12-Endrin Aldehyde	74.9	5 - 144
Mirex	965	1000	96.5	50 - 120	IS	13C12-Endrin Ketone	109	5 - 144
Endrin Aldehyde	832	1000	83.2	50 - 134				
Endrin Ketone	810	1000	81.0	50 - 134				

LCL-UCL - Lower control limit - upper control limit

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Sample ID: TS2-	E-180301							EPA Met	thod 1699
Project: 101-0	I Engineering 02-LRTC, Task 1 ar-2018 9:08	Sample Data Matrix: Sample Size:	Water 1.000 L	QC B	Sample	: 1800396-01 B8C0047	Date Received: Date Extracted: n: ZB-50	02-Mar-201 07-Mar-201	
Analyte Conc.	(pg/L) DI	EMPC	Qual	lifiers]	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	8.96		J, 1	В 1		13C6-Hexachlorobenzene	66.2	5 - 120	
alpha-BHC	46.3] 1		13C6-alpha-BHC	75.2	32 - 130	
Lindane (gamma-BHC)	39.6		J]		13C6-Lindane (gamma-BHC)	82.0	11 - 120	
beta-BHC	25.7		J		IS :	13C6-beta-BHC	86.9	32 - 130	
delta-BHC	ND 8.1]	IS :	13C6-delta-BHC	86.6	36 - 137	
Heptachlor	ND 1.9]	IS :	13C10-Heptachlor	96.8	5 - 120	
Aldrin	ND 7.9	4]	IS :	13C12-Aldrin	85.0	5 - 120	
Oxychlordane	ND 26.	1]		13C10-Oxychlordane	91.2	23 - 135	
cis-Heptachlor Epoxide	ND 18.	2]	IS :	13C10-cis-Heptachlor Epoxide	102	27 - 137	
trans-Heptachlor Epoxide	ND 64.	4]	IS :	13C10-trans-Chlordane (gamma	87.7	21 - 132	
trans-Chlordane (gamma)	ND 26.	2]	IS :	13C10-trans-Nonachlor	93.5	14 - 136	
trans-Nonachlor	ND 21.	8]	IS :	13C9-Endosulfan I (alpha)	93.4	15 - 148	
cis-Chlordane (alpha)	ND	33.4]	IS :	13C12-2,4'-DDE	85.0	47 - 160	
Endosulfan I (alpha)	ND 27.	6			IS :	13C12-4,4'-DDE	88.6	47 - 160	
2,4'-DDE	ND 4.0	6]	IS :	13C12-Dieldrin	91.1	40 - 151	
4,4'-DDE	17.6		J		IS :	13C12-Endrin	117	35 - 155	
Dieldrin	519]	IS :	13C10-cis-Nonachlor	89.6	36 - 139	
Endrin	256				IS :	13C9-Endosulfan II (beta)	84.7	5 - 122	
cis-Nonachlor	ND 12.	0]	IS :	13C12-2,4'-DDD	88.4	5 - 199	
Endosulfan II (beta)	ND 36.	3			IS 1	13C12-2,4'-DDT	91.9	5 - 199	
2,4'-DDD	29.6		J		IS 1	13C12-4,4'-DDD	90.4	5 - 120	
2,4'-DDT	ND 7.1	8]	IS 1	13C12-4,4'-DDT	95.5	5 - 120	
4,4'-DDD	37.6		J			13C9-Endosulfan Sulfate	96.5	15 - 148	
4,4'-DDT	26.2		J			13C12-Methoxychlor	95.5	5 - 120	
Endosulfan Sulfate	ND 26.	2				13C10-Mirex	78.3	5 - 120	
4,4'-Methoxychlor	ND 5.5					13C12-Endrin Aldehyde	61.8	15 - 148	
Mirex	ND 2.7					13C12-Endrin Ketone	88.5	15 - 148	
Endrin Aldehyde	ND 11.								
Endrin Ketone	229								
DI Cample appoife estimated					LUCI	T			

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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DATA QUALIFIERS & ABBREVIATIONS

В This compound was also detected in the method blank. D **Dilution** \mathbf{E} The associated compound concentration exceeded the calibration range of the instrument. Н Recovery and/or RPD was outside laboratory acceptance limits. **Chemical Interference** I J The amount detected is below the Reporting Limit/LOQ. \mathbf{M} **Estimated Maximum Possible Concentration.** (CA Region 2 projects only) **See Cover Letter** Conc. Concentration NA Not applicable ND **Not Detected** TEQ **Toxic Equivalency** \mathbf{U}

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Not Detected (specific projects only)

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CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

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Vista Ana 1104 Windf El Dorado H	eld Way ills, CA 95762 (916) 673-1520	Please send analy and the original ch sab@cdimengines mec@cdimengine		INSTRUCTIONS FOR LAB PERSONNEL: GeoTracker EDF required? o Yes x No Equis 4-file EDWEDD required? x Yes No Specify analytic/prep method and detection limit in report. Notify us of any anomalous peaks in GC or other scans. Call immediately with any questions or problems.										, 2.0°C						
	Client Contact	Project Manager:	Scott Bou	rne			ocol ID	ol ID/path:										COC Num	nber:	
CDIM ENG		Project ID:	101-002-LI	RTC, Task 1																
45 POLK S	TREET, 3RD FLOOR	Sampled by:	MEC/1	7													0		-	
SAN FRAN	ICISCO, CA	Sample date(s):	3/1/1				- 1											Page	of (
(415) 498-0	9535 PHONE	Analysi	is Turnard		e:	Analyte (Method ID)	(669							11						
Job Name	LRTC Annual Storm Water Sampling	-	Standa	rd		Aetr	A T				. 1		1					SDG nun	iber:	
	Levin Richmond Terminal,	-			-0	W) es	(EP													
Address:	402 Wright Avenue, Richmond, CA 94804	(Sp	ecify Days o	r Hours)		alyt	ides													
Lab ID	Sample Identification	Sample Date	Sample Time	Sample Matrix	# of Cont.	An	Pesticides (EPA 1699)											Sample Speci	fic Notes:	
	TS2-E-190301	3118	0909	W	3		X			-										
		11.	1					-							+	+				
			-	-				-	-	-	+	-		-	+	1	-			
							_													
							-		-		_	+			-	+				
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									1											
				7								700		-11			501			
			-							-	-	+	+	-	+	1	-			
							-	-	-		-				-		_			
											41									
				Field I	Filtered ()	X):			7											
Pre	servation Used: 1= lce, 2= HCI; 3= H ₂ SO ₄ ; 4:	=HNO ₃ ; 5=NaOH; 6= Of	ther			\neg	1		0.1											
Special In	structions/QC Requirements & Comm	ents: Level II Rep	ort. Report	with repor	ting limit	and	meth	od detec	tion li	mit. Ple	ase us	se agre	ed un	on anal	vte lie	for ED	A 1699			
	P	lease com	posite	the	3	Co	1 TO	riner	3			e agre					A 1000.			
Relinquished	1-Zim 4	Company: Company:	neerry	Date/Time:	11502	Rece	d beyi	ween,	Ro	ikash	H	Kalp	igh-	Company	YA	iL		Date/Time:	1019	
Keiinquisned	by:	Company:		Date/Time:		Rece	ived by	y:					1	Company				Date/Time:		
Relinquished	by:	Company:		Date/Time:		Rece	ived by	y:		_				Company	:			Date/Time:		
	x = Samples released to a secured locke	и											0							

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Sample Log-in Checklist

Vista Work Orde	er #:		1800	39	6			_ TATS	d
Samples Arrival:	Date/Tim &ろ/Oン/ \	8 10	13	Ir	nitials: ₩			nelf/Rack: N	
Logged In:	Date/Tim		527		nitials:	E S		nelf/Rack:	-2 A3
Delivered By:	FedEx	UPS	On T	rac	GSO	DHI		Hand Delivered	Other
Preservation:	(To	e)	Е	lue	Ice		I	Ory Ice	None
Temp °C: 2.\			Time: Probe us	sed:		Notal	Th	nermometer ID:	IR-4

				YES	NO	NA
Adequate Sample Vol	ume Received?	A	BIC	/		
Holding Time Accepta	ble?			V		
Shipping Container(s)	Intact?			1		
Shipping Custody Sea	als Intact?				1	1
Shipping Documentat	ion Present?			1		17.11
Airbill	Trk#7716 6969	0999				
Sample Container Inta	act?			/		.54
Sample Custody Seal	s Intact?			/		1
Chain of Custody / Sa	mple Documentation Pres	sent?		/		
COC Anomaly/Sample	e Acceptance Form comp	leted?			/	/
If Chlorinated or Drink	ing Water Samples, Acce	ptable Pres	ervation?			V
Preservation Docume	nted: Na ₂ S ₂ O ₃	Trizma	None	Yes	No	(A)
Shipping Container	Vista	Client	Retain	Return	Disp	ose

Comments:

ID.: LR - SLC

Rev No.: 0

Rev Date: 05/18/2017

Page: 1 of 1



March 28, 2018

Vista Work Order No. 1800398

Mr. Scott Bourne CDIM Engineering 45 Polk Street, 3rd Floor San Francisco, CA 94102

Dear Mr. Bourne,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on March 02, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '101-002-LRTC, Task 1'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

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Vista Work Order No. 1800398 Case Narrative

Sample Condition on Receipt:

One water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1699

The sample was extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the method acceptance criteria are listed in the table below:

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1800398-01	TS2-I-180301	EPA Method 1699	13C12-2,4'-DDE	Н	40.3
1800398-01	TS2-I-180301	EPA Method 1699	13C12-4,4'-DDE	Н	30.2
1800398-01	TS2-I-180301	EPA Method 1699	13C12-Dieldrin	Н	36.2
1800398-01	TS2-I-180301	EPA Method 1699	13C10-cis-Nonachlor	Н	26.8
1800398-01	TS2-I-180301	EPA Method 1699	13C12-Endrin Aldehyde	Н	8.50
1800398-01	TS2-I-180301	EPA Method 1699	13C12-Endrin Ketone	Н	11.8

H = Recovery was outside laboratory acceptance criteria.

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Certifications	10
Sample Receipt	11

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800398-01	TS2-I-180301	01-Mar-18 09:03	02-Mar-18 10:13	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L

Vista Project: 1800398 Client Project: 101-002-LRTC, Task 1

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ANALYTICAL RESULTS

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Sample ID: Method Blank EPA Method 1699

Matrix: Aqueous QC Batch: B8C0047 Lab Sample: B8C0047-BLK1

Sample Size: 1.00 L Date Extracted: 07-Mar-2018 11:40 Date Analyzed: 20-Mar-18 17:37 Column: ZB-50

Analyte Co	onc. (pg/L)	DL EMPC	Qualifiers Qualifiers]	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	5.25		J	IS	13C6-Hexachlorobenzene	61.7	5 - 120	
alpha-BHC	ND	9.61		IS	13C6-alpha-BHC	77.9	32 - 130	
Lindane (gamma-BHC)	ND	14.2		IS	13C6-Lindane (gamma-BHC)	81.7	11 - 120	
beta-BHC	ND	12.2		IS	13C6-beta-BHC	82.7	32 - 130	
delta-BHC	ND	9.79		IS	13C6-delta-BHC	83.9	36 - 137	
Heptachlor	ND	1.21		IS	13C10-Heptachlor	84.5	5 - 120	
Aldrin	ND	4.59		IS	13C12-Aldrin	78.0	5 - 120	
Oxychlordane	ND	14.0		IS	13C10-Oxychlordane	92.0	23 - 135	
cis-Heptachlor Epoxide	ND	10.6		IS	13C10-cis-Heptachlor Epoxide	90.3	27 - 137	
trans-Heptachlor Epoxide	ND	37.7		IS	13C10-trans-Chlordane (gamma)	88.0	21 - 132	
trans-Chlordane (gamma)	ND	12.8		IS	13C10-trans-Nonachlor	86.7	14 - 136	
trans-Nonachlor	ND	13.2		IS	13C9-Endosulfan I (alpha)	84.7	15 - 148	
cis-Chlordane (alpha)	ND	11.8		IS	13C12-2,4'-DDE	80.2	47 - 160	
Endosulfan I (alpha)	ND	17.0		IS	13C12-4,4'-DDE	84.2	47 - 160	
2,4'-DDE	ND	5.47		IS	13C12-Dieldrin	88.7	40 - 151	
4,4'-DDE	ND	6.30		IS	13C12-Endrin	109	35 - 155	
Dieldrin	ND	8.46		IS	13C10-cis-Nonachlor	85.7	36 - 139	
Endrin	ND	11.6		IS	13C9-Endosulfan II (beta)	78.7	5 - 122	
cis-Nonachlor	ND	15.0		IS	13C12-2,4'-DDD	83.9	5 - 199	
Endosulfan II (beta)	ND	45.6		IS	13C12-2,4'-DDT	85.3	5 - 199	
2,4'-DDD	ND	6.98		IS	13C12-4,4'-DDD	83.4	5 - 120	
2,4'-DDT	ND	11.3		IS	13C12-4,4'-DDT	86.8	5 - 120	
4,4'-DDD	ND	6.79		IS	13C9-Endosulfan Sulfate	99.6	15 - 148	
4,4'-DDT	ND	10.2		IS	13C12-Methoxychlor	88.7	5 - 120	
Endosulfan Sulfate	ND	25.3		IS	13C10-Mirex	74.8	5 - 120	
4,4'-Methoxychlor	ND	5.05		IS	13C12-Endrin Aldehyde	64.4	15 - 148	
Mirex	ND	3.97		IS	13C12-Endrin Ketone	83.6	15 - 148	
Endrin Aldehyde	ND	8.76						
Endrin Ketone	ND	13.9						

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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Sample ID: OPR EPA Method 1699

Matrix: Aqueous QC Batch: B8C0047 Lab Sample: B8C0047-BS1

Sample Size: 1.00 L Date Extracted: 07-Mar-2018 11:40 Date Analyzed: 20-Mar-18 15:12 Column: ZB-50

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
Hexachlorobenzene	997	1000	99.7	50 - 120	IS	13C6-Hexachlorobenzene	60.9	5 - 120
alpha-BHC	1010	1000	101	50 - 120	IS	13C6-alpha-BHC	74.6	17 - 141
Lindane (gamma-BHC)	952	1000	95.2	50 - 120	IS	13C6-Lindane (gamma-BHC)	80.9	5 - 124
beta-BHC	940	1000	93.2	50 - 120	IS	13C6-beta-BHC	84.2	17 - 141
					IS	13C6-delta-BHC	87.2	16 - 150
delta-BHC	915	1000	91.5	50 - 120		13C10-Heptachlor	83.6	5 - 128
Heptachlor	991	1000	99.1	50 - 120	IS	13C12-Aldrin	74.0	5 - 128 5 - 126
Aldrin	978	1000	97.8	50 - 120	IS			
Oxychlordane	890	1000	89.0	50 - 120	IS	13C10-Oxychlordane	89.7	5 - 144
cis-Heptachlor Epoxide	948	1000	94.8	50 - 120	IS	13C10-cis-Heptachlor Epoxide	94.5	8 - 146
trans-Heptachlor Epoxide	897	1000	89.7	50 - 120	IS	13C10-trans-Chlordane (gamma)	85.2	15 - 144
trans-Chlordane (gamma)	1020	1000	102	50 - 120	IS	13C10-trans-Nonachlor	88.9	13 - 149
trans-Nonachlor	926	1000	92.6	50 - 120	IS	13C9-Endosulfan I (alpha)	96.6	5 - 144
cis-Chlordane (alpha)	960	1000	96.0	50 - 120	IS	13C12-2,4'-DDE	91.2	26 - 169
Endosulfan I (alpha)	892	1000	89.2	50 - 120	IS	13C12-4,4'-DDE	94.4	26 - 169
2,4'-DDE	992	1000	99.2	24 - 123	IS	13C12-Dieldrin	103	19 - 161
4,4'-DDE	979	1000	97.9	50 - 120	IS	13C12-Endrin	144	20 - 157
Dieldrin	924	1000	92.4	50 - 120	IS	13C10-cis-Nonachlor	105	17 - 154
Endrin	907	1000	90.7	50 - 120	IS	13C9-Endosulfan II (beta)	108	5 - 120
cis-Nonachlor	885	1000	88.5	50 - 120	IS	13C12-2,4'-DDD	97.8	14 - 200
Endosulfan II (beta)	1010	1000	101	5 - 200	IS	13C12-2,4'-DDT	103	14 - 200
2,4'-DDD	986	1000	98.6	50 - 120	IS	13C12-4,4'-DDD	103	14 - 200
2,4'-DDT	1030	1000	103	50 - 120	IS	13C12-4,4'-DDT	113	13 - 200
4,4'-DDD	984	1000	98.4	42 - 120	IS	13C9-Endosulfan Sulfate	112	5 - 144
4,4'-DDT	974	1000	97.4	50 - 120	IS	13C12-Methoxychlor	122	8 - 200
Endosulfan Sulfate	831	1000	83.1	50 - 120	IS	13C10-Mirex	101	5 - 138
4,4'-Methoxychlor	961	1000	96.1	50 - 120	IS	13C12-Endrin Aldehyde	74.9	5 - 144
Mirex	965	1000	96.5	50 - 120	IS	13C12-Endrin Ketone	109	5 - 144
Endrin Aldehyde	832	1000	83.2	50 - 134	10		200	0 1.1
Endrin Aldenyde Endrin Ketone	810	1000	81.0	50 - 134				

LCL-UCL - Lower control limit - upper control limit

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Sample ID: TS2-I	-180301						EPA Met	hod 1699
Client Data		Sample Data		Laborat	tory Data			
Name: CDIM	Engineering	Matrix:	Water	Lab Sa	ample: 1800398-01	Date Received:	02-Mar-201	8 10:13
Project: 101-00	02-LRTC, Task 1	Sample Size:	1.04 L	QC Ba	tch: B8C0047	Date Extracted:	07-Mar-201	8 11:40
Date Collected: 01-Ma	r-2018 9:03			Date A	analyzed: 20-Mar-18 20:03 Column	: ZB-50		
					22-Mar-18 23:52 Column			
Analyte Conc.	(pg/L) DL	EMPC	Qual	ifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
Hexachlorobenzene	1930		В, 1	D IS	S 13C6-Hexachlorobenzene	78.9	5 - 120	D
alpha-BHC	67.5			IS	S 13C6-alpha-BHC	122	32 - 130	
Lindane (gamma-BHC)	79.5			IS	S 13C6-Lindane (gamma-BHC)	94.2	11 - 120	
beta-BHC	ND 53.5			IS	S 13C6-beta-BHC	56.3	32 - 130	
delta-BHC	ND 61.3	3		15	S 13C6-delta-BHC	55.8	36 - 137	
Heptachlor	ND 23.4	1		IS	S 13C10-Heptachlor	91.1	5 - 120	
Aldrin	ND 64.8	3		IS	S 13C12-Aldrin	37.2	5 - 120	
Oxychlordane	ND 108	3		IS	S 13C10-Oxychlordane	63.5	23 - 135	
cis-Heptachlor Epoxide	ND 109)		IS	S 13C10-cis-Heptachlor Epoxide	60.3	27 - 137	
trans-Heptachlor Epoxide	ND 385	5		IS	S 13C10-trans-Chlordane (gamma)) 44.7	21 - 132	
trans-Chlordane (gamma)	486			IS	S 13C10-trans-Nonachlor	32.7	14 - 136	
trans-Nonachlor	ND 218	3		IS	S 13C9-Endosulfan I (alpha)	50.6	15 - 148	
cis-Chlordane (alpha)	887			IS	S 13C12-2,4'-DDE	40.3	47 - 160	Н
Endosulfan I (alpha)	ND 218	3		IS	S 13C12-4,4'-DDE	30.2	47 - 160	Н
2,4'-DDE	417			IS	S 13C12-Dieldrin	36.2	40 - 151	Н
4,4'-DDE	6960			IS	S 13C12-Endrin	36.3	35 - 155	
Dieldrin	1720			IS	S 13C10-cis-Nonachlor	26.8	36 - 139	Н
Endrin	1180			IS	S 13C9-Endosulfan II (beta)	20.7	5 - 122	
cis-Nonachlor	ND 365	,		IS	S 13C12-2,4'-DDD	23.8	5 - 199	
Endosulfan II (beta)	ND 130	0		IS	S 13C12-2,4'-DDT	14.6	5 - 199	
2,4'-DDD	1500			IS	S 13C12-4,4'-DDD	16.4	5 - 120	
2,4'-DDT	3840			IS	S 13C12-4,4'-DDT	10.7	5 - 120	
4,4'-DDD	2690			IS	S 13C9-Endosulfan Sulfate	25.2	15 - 148	
4,4'-DDT	14400			IS	S 13C12-Methoxychlor	10.2	5 - 120	
Endosulfan Sulfate	ND 1050	0		IS	S 13C10-Mirex	18.4	5 - 120	
4,4'-Methoxychlor	ND 154	0		IS	S 13C12-Endrin Aldehyde	8.50	15 - 148	Н
Mirex	ND 342	2		IS	S 13C12-Endrin Ketone	11.8	15 - 148	Н
Endrin Aldehyde	ND 317							
Endrin Ketone	ND 318	0						

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

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DATA QUALIFIERS & ABBREVIATIONS

В This compound was also detected in the method blank. D **Dilution** \mathbf{E} The associated compound concentration exceeded the calibration range of the instrument. Н Recovery and/or RPD was outside laboratory acceptance limits. **Chemical Interference** I J The amount detected is below the Reporting Limit/LOQ. \mathbf{M} **Estimated Maximum Possible Concentration.** (CA Region 2 projects only) **See Cover Letter** Conc. Concentration NA Not applicable ND **Not Detected** TEQ **Toxic Equivalency** \mathbf{U} **Not Detected (specific projects only)**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

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CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

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Vista Ana 1104 Windi	10-11-11-11-11-11-11-11-11-11-11-11-11-1	Please send analy and the original ch sab@cdimenginee mec@cdimengine		GeoTra Equis Specify Notify u	CTIONS FOR ker EDF req -file EDWED analytic/prep i of any anom ediately with	uired? D required method alous p	o) ired? and dete eaks in (Yes X Ye ection lim GC or oth	er scans.		18	003	398	, 2	.0°C				
	Client Contact	Project Manager:	Scott Bou	rne	4 501		Call immediately with any questions or problems.										/	COC Numi	OF.
CDIM ENG	SINEERING	Project ID:		RTC, Task 1									T					OOO Huiii	ei.
45 POLK	STREET, 3RD FLOOR	Sampled by: }	rEC/1														 		
SAN FRAN	NCISCO, CA	Sample date(s):	3/1/19			1												Page of	-1
(415) 498-	0535 PHONE			ound Tim	e:	Analyte (Method ID)	(66											rageO	
Joh Namo	: LRTC Annual Storm Water Sampling		Standa	ed.		leth	A 16				1 1							SDG num	er;
	Levin Richmond Terminal,				-	e (N	(EP.												
Address:	402 Wright Avenue, Richmond, CA 94804	(Sp	ecify Days o	r Hours)		alyt	ides												
Lab ID	Sample Identification	Sample Date	Sample Time	Sample Matrix	# of Cont.	An	Pesticides (EPA 1699)											Sample Specifi	c Notes:
	TS2-1- 190301	3 1 19	0903	W	3		X												
						ı			1										
																	, C. III		
								+	+	+									
		1		Field I	Filtered ()	X).		++	+		+	-							
Pre	eservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4=	=HNO. · 5=NaOH · 6= Of	hor	1 1010	merea ()	''	_	+	+	-	+-+		+		-	-			
	structions/QC Requirements & Commo			with you	Name Class 14		1	4 4-4-54											
	0.54	pleas	e C	ompos	ite	+	ne	5 (ion	tai	ner.	greed	upon a	nalyte	list for	EPA 169	99.		
Relinquished LISMA Relinquished	n Zhu	Company: Compan					ived by	weeni	Rio	Kus	1M	FWA	Comp	V	AL			e/Time:	1019
Relinquished	i by:	Company:		Date/Time:		Rece	eived by					0	Comp	any:			Date/Time:		

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Sample Log-in Checklist

Vista Work Orde	er #:		186039	8			TAT	<u>d</u>	
Samples Arrival:	Date/Tim 63 (02) い	Date/Time 33/02/18 1013				Location: WP-7 Shelf/Rack: NA			
Logged In:	Date/Time 03/02/18 1540			Initials:		Location: WR-2 Shelf/Rack: A3			
Delivered By:	FedEx	UPS	On Tra	ac GSO	DHI	L	Hand Other		
Preservation:	(Tce)		Blue Ice			D	None		
Temp °C: 2 · \ (uncorrected) Time:				1020		Thermometer ID: IR-4			
Temp °C: 2.0	Probe used: Yes□ Nob								

				YES	NO	NA
Adequate Sample Volu	V					
Holding Time Acceptab	V					
Shipping Container(s) Intact?						
Shipping Custody Seals Intact?						1
Shipping Documentation	n Present?			/		
Airbill	Trk#7716 6969	0999				
Sample Container Intact?						
Sample Custody Seals		1	/			
Chain of Custody / Sample Documentation Present?						
COC Anomaly/Sample Acceptance Form completed?						/
If Chlorinated or Drinkin	g Water Samples, Acc	ceptable Pres	ervation?			/
Preservation Document	ed: Na₂S₂O₃	Trizma	None	Yes	No	NA
Shipping Container Vista Client Retain Ret						ose

Comments:

ID.: LR - SLC

Rev No.: 0

Rev Date: 05/18/2017

Page: 1 of 1



APPENDIX C

Upland Capping System Inspection Form

Former United Heckathorn Superfund Site Upland Capping System Inspection Form Levin Richmond Terminal, 402 Wright Avenue, Richmond, California I. General Information Site: Former United Heckathorn Superfund Site, Inspector: Bryan Starks and Scott Bourne, PE Levin Richmond Terminal Organization: CDIM Address: 402 Wright Avenue, Richmond, CA Date and time of inspection: 6/15/2018 10:00am II. Upland Area Concrete Cap, Gravel Cover, and Drainage System Observations Note significant cracks, holes, penetrations, damage, settlement, or any exposure of underlying soil in any component of the capping system. North Main Terminal (SW-3) No N/A Comments Are concrete cap surfaces in adequate condition to promote effectiveness of the cap? Are gravel cover surfaces in adequate condition to promote effectiveness of the cap? Is storm water drainage infrastructure (interceptors, drain inlets) in adequate condition to prevent exposure of underlying soil to runoff? Is accumulated sediment observed in the interceptors or drain inlets? Interceptors not accessed during If yes, note location and photograph. this inspection. Drain inlets have inlet protection. Are corrective actions required? Attach a photograph of areas requiring corrective action. Describe any recent repairs/maintenance: All interceptors in the Upland area were cleaned prior to the 2017-2018 wet season. This is performed annually during dry weather and as-needed throughout the storm season. Drain inlets equipped with drain inlet filters, which are observed during regular BMP inspections. Drain inlets are replaced as needed throughout the storm season and at least once per year prior to the start of the storm season. Minor surficial cracks in the alleyway along the west border of the site have been repaired. Describe conditions and locations of the capping system which require attention: Small cracks noted in the bulk product storage area. No soil was exposed in the area, but the area should continue to be monitored. Describe corrective actions required and their date(s) of implementation: None.

Date: 6/15/2018 1 of 5

In St

Former United Heckathorn Superfund Site Upland Capping System Inspection Form Levin Richmond Terminal, 402 Wright Avenue, Richmond, California North Main Terminal/United Heckathorn (SW-4) Yes No N/A Comments Are concrete cap surfaces in adequate condition to promote effectiveness of the cap? Are gravel cover surfaces in adequate condition to promote effectiveness of the cap? Is storm water drainage infrastructure (interceptors, drain inlets) in adequate condition to prevent exposure of underlying soil to runoff? Is accumulated sediment observed in the interceptors or drain inlets? Interceptors not accessed during If yes, note location and photograph. this inspection. Drain inlets have inlet protection. Χ Are corrective actions required? Attach a photograph of areas requiring corrective action. Describe any recent repairs/maintenance: Repair performed for minor surficial cracking in the vicinity of SW-4 and in the alleyway along west border of the site. Describe conditions and locations of the capping system which require attention: Minor surficial cracking was noted in the bulk product storage area. Continue to monitor. Describe corrective actions required and their date(s) of implementation: None.

1955

Signature:

Former United Heckathorn Superfund Site Upland Capping System Inspection Form Levin Richmond Terminal, 402 Wright Avenue, Richmond, California North Main Terminal/United Heckathorn (SW-5) Yes No N/A Comments Are concrete cap surfaces in adequate condition to promote effectiveness of the cap? Are gravel cover surfaces in adequate condition to promote effectiveness of the cap? Is storm water drainage infrastructure (interceptors, drain inlets) in adequate condition to prevent exposure of underlying soil to runoff? Is accumulated sediment observed in the interceptors or drain inlets? Interceptors not accessed during If yes, note location and photograph. this inspection. Drain inlets have inlet protection. Χ Are corrective actions required? Attach a photograph of areas requiring corrective action. Describe any recent repairs/maintenance: Repair performed for minor surficial cracking and cracking near railroad crossing. Describe conditions and locations of the capping system which require attention: Minor pavement deterioration noted in the southern portion of the eastern swale at the railroad crossing. Railroad ties may require replacement. No change noted from previous years, but the area should continue to be monitored. Gravel cover should continue to be monitored, and additional gravel placed as needed. Describe corrective actions required and their date(s) of implementation:

A56

Signature:

None.

Former United Heckathorn Superfund Site Upland Capping System Inspection Form Levin Richmond Terminal, 402 Wright Avenue, Richmond, California North Main Terminal/United Heckathorn (SW-6) Yes No N/A Comments Are concrete cap surfaces in adequate condition to promote effectiveness of the cap? Are gravel cover surfaces in adequate condition to promote effectiveness of the cap? Is storm water drainage infrastructure (interceptors, drain inlets) in adequate condition to prevent exposure of underlying soil to runoff? Is accumulated sediment observed in the interceptors or drain inlets? Interceptors not accessed during If yes, note location and photograph. this inspection. Drain inlets have inlet protection. Χ Are corrective actions required? Attach a photograph of areas requiring corrective action. Describe any recent repairs/maintenance: None. Describe conditions and locations of the capping system which require attention: Minor surficial cracks and seams were notednorth of interceptor #5 and treatment system TS-2. Gravel cover should continue to be monitored, and additional gravel placed as needed. Describe corrective actions required and their date(s) of implementation: None.

A56

Signature:

Former United Heckathorn Superfund Site Upland Capping System Inspection Form Levin Richmond Terminal, 402 Wright Avenue, Richmond, California North Main Terminal/United Heckathorn (SW-7) Yes No N/A Comments Are concrete cap surfaces in adequate condition to promote effectiveness of the cap? Are gravel cover surfaces in adequate condition to promote effectiveness of the cap? Is storm water drainage infrastructure (interceptors, drain inlets) in adequate condition to prevent exposure of underlying soil to runoff? Is accumulated sediment observed in the interceptors or drain inlets? Interceptors not accessed during If yes, note location and photograph. this inspection. Drain inlets have inlet protection. X Are corrective actions required? Attach a photograph of areas requiring corrective action. Describe any recent repairs/maintenance: None. Describe conditions and locations of the capping system which require attention: Minor surfical cracks and seams observed throughout SW-7. Gravel cover should continue to be monitored, and additional gravel placed as needed. Describe corrective actions required and their date(s) of implementation: None.

A56

Signature: